AUTHOR INDEX

January–December, 1955

P indicates a patent reference

AATCC. N. Y. Sect. 116
AATCC. Phila. Sect. 112
AATCC. Stream-Sanitation Comm. 218, 499
ARWA Feinstrumpfwirkerei GmbH P555
Aarons, R. P560
Abbott, E. J. P37
Abbott, G. A. W. P184
Abbott Worsted Mills, P37
Abe, T., 270
Abington Textile Machinery Works, P130, P459
Abrams, E., 64, 525
Abrams, M., 504
Acker, R., 239
Adams, W. S., P176
Adams (L. S.) Engineering Inc., P321
Adams-Millis Corporation, P375
Adriano Gardella Soc. Coll., P223
Adshead and Geeson Ltd., P377
Agster, A., 156, 480
Airoldi, A., 253, 254
Albany Felt Co., P424
Albinson, E., 113, 204
Albrecht, G. F., P221
Alexander, P., 3
Alexander Smith Inc., P37, P41, P44, P89, P228
Algemene Kunstzijde Unie NV, P221, P377, P505
Alix, E. C., P87
Allen, F. M., Jr., 204
Allen, G. M., P510
Allen, J. E., 50, 193, 331, 392, 470
Allen, R. R., P560
Allenson, G. T. P179
Allied Chemical & Dye Corp., P230, 283, 346
Allscher, R., 250, 309, 534
Alsacienne Soc. de Constructions Mecaniques, P219, P507
Alspaugh, T. A., 360
American Cyanamid Co., P42, 69, P129, P182, P230, P275, P277, P278, P509, P510, P560
American Enka Corp., P37 P219, P319
American Sisalkraft Corp., P557
American Soc. for Quality Control, 317
American Viscose Corp., P37, P40, P41, P84, P222, P277, P278, P322, P371, P372, P374, P425, P426, P458, P464, P510, P551, P559, P560
Amidon, R. C., P461
Ammon, E. R., P556
Amouroux, E., 493
Anders, H., 155
Anderson, D. M., 243
Anderson, F. 48
Anderson, S. L., 470
Andras, H. K., 405
Andre, H., 301
Andre, L. A., P422
Andre, P., 144
Andre Rubber Co. Ltd., P35
Andreen, J. H., 18, 298
Andriessen, J., 119
Angus (George) and Co. Ltd., P35, P174
Annicq, J., P37
Anorgana Co., P90
Antoine, P., 10
Antoni, M., 501
Antonicek, R., P322
Anufriev, P. L., 293
Appel, W. D., 271
Aravamuthan, K. R., 26, 165
Arbeitsgemeinschaft Deutscher Textilingenieure 413
Arenson, D. L., 203
Aristov, P. I., 332
Armbruster, E. H., 450
Armitage, J. D., P463
Armitage (John L.) and Co., Inc., P463
Armstrong, A. C., 270
Armstrong Cork Co., P130, P227
Arndt, W., 387
Arnold, L. B., Jr., 483
Asbill, C. M., Jr., P92
Ashby, W. L., 383
Ashcroft, J. M., 274
Ashley, T. H., P508
Ashner, R. M., 26
Ashton, F., P550
Ashworth, J., P223, P323, P553
Aspden, C. S., P323, 434
Atherton, E., 407
Atkins, A. A., P176, P458
Atlas Powder Co., P41
Auffret, R., 53
Austin, J., 244
Auton, C. C., 13
Autoseam Ltd., P184
Avco Mfg. Corp., P380
Averns, H. M., 238, 290, 334
Avery (W. and T.) Ltd., P369
Ayrton (Wm.) and Co. Ltd., P132
B. B. Chemical Co. Ltd., P509
Babiarz, R. S., P378
Babinski, A., P183
Bachmann, E., P456
Backwell, A. R. A., 403
Bacon, H. M., P86
Baddeley, C. H., P176, P177, P179, P224, P373
Badische Anilin-und Soda-Fabrik, P90, P228, P376, P377, P463, P560
Baer (Henry) and Co Ltd., 215
Bahan, E. F., P225
Baier, H., 381, 481
Bailey, E., P85, P86
Bailey, H. P., P276
Bailey, S., Jr., P464
Bailey, T. L. W., Jr., 280
Bainbridge, T. R., 317
Baines, A., 531
Baird, M. E., 163
Baker, A., 203
Baker, C. A., 353
Bakker, A., 116, 479
Balassa, L. L., P182
Balkin, M., P35, P174
Ball, E., P179
Ball, S. G., P135
Ballard, K. W., P175
Balslev, J., 347
Bamford, H., 503
Bancroft (Joseph) & Sons Co., P378
Bandyopadhyay, S. B., 164
Banerjee, S. K., 513
Banky, E. C., 232
Banner, E. H. W., 311
Bannister, M., 416
Barabanov, L. G., 471
Barber, R. P., 109
Barber, W., P417
Barber-Colman Co., P39, P84, P85, P420
Bardet, R., 335
Bardsley, R. F., 41
Barella, A., 74, 121, 122, 353, 497, 523
Barkin, S., 356
Barmer Maschinenfabrik AG, P132, P176
Barnard, K. H., P42, 171
Barnes, C. R., P424
Barnes, R. L., 147
Barnick, A., 295
Baron, H., 400
Barrera, R. M., P131
Barrett, F. L., P230
Barros, A. J. C. de O., P463
Barrow Hepburn & Gale Ltd., P377
Bartulovich, J. J., 539
Bass, G. H., 317
Bastin, L. E., P376
Bates, E. B., P377, P424
Bates Mfg. Co., P423
Battles, W. M., P461
Batty, H., P323, P553
Battye, A. E., P181
Bauer, E. K., P222, P372
Bauer, J., 125, 407
Baumber, L., P226
Bausher, J. L., P226
Baxandall, G. A., P426
Baxter, G., 345
Bayer (Farbenfabriken) AG, P183, P378, P380, P426, P558
Bayerische Berg-, Hutten- und Salzwerke AG, P556
Bayley, C. H., 365, 484
Baylis, D. E., 361
Baymiller, J. W., P130
Beadle, J. L., 62
Beardsworth, P. V., 6, 54, 97
Beautiful Bryans, Inc., P375
Bechlenberg, H., 332, 389, 443
Bechner, E. R., 268, 392
Beck, L., P37
Becker, F. G. L., P33
Becker, O., 350
Beckett, L., P227
Beckwith, O. P., 317, 360
Beer, J., P225
Bejeuhr, W. G., P44
Bekku, F., 433
Belcher, H. H., P278
Belin, J., 478
Belishev, P. V., 475
Belitsin, N. M., 144
Bell, C. C., P131
Bell, G. C., P225
Bell, J. W., 513
Bell, T. E., 302
Bellini, E., P135
Bellwood, L., 56, 193, 152, 218
Belrug Mills, P421
Bemis Bro. Bag Co., P423
Bendlair, D., 387
Bener, C., P136
Benner, F. C., P371
Bennett, E. H., P370
Bennett, J. W., P221, P464
Benninger Engineering Co. Ltd., 54, 240
Benninger Maschinenfabrik AG, P176
Bentley, E. A., 286
Benyon, J., P370
Berg, G., 104
Berg, N., 247
Bergstrom, C. P., P134
Berker, R. C., P506
Berkley, E. E., 185
Berkowitz, J., P87
Bernard, S. S. L., P326
Bernardy, G., 256
Bernetta, K., 246
Bernskiold, A., 119
Berquier, A., P225
Berry, A. W., 544
Berry, F. T., P377
Berthoud, R., 437
Best-Gordon, H. W., 15, 303, 341, 402, P425, 530
Beswick, E., 517
Beth (Maschinenfabrik) AG, P41
Bettoni, E., P130
Bhide, C., P321
Bickford, H. J., 203
Bicksler, C. S., 12
Bidgood, L., Jr., 488
Biefeld, L. P., P378
Bigelow-Sanford Carpet Co., Inc., P222, P423, P549
Biggs, W. A., Jr., P176
Bihaly, L., P325, P557
Binder, M., P229, 485
Binkley, C. H., 232, P463
Bird, C. L., 306
Birmingham, J. N., P507
Bisinger, B., P457, P550
Black, R. A., P422
Black Clawson Co., P91
Blackburn, R. M., 147
Blackburn, S., 307
Blackwell, F., 165
Blake, S., P230
Blaschke, K., 493, 519
Blau, C., 67, 111
Blau, M., P326
Bleachers' Assoc. Ltd., P42, P230
Blease, R. A., P182
Bliss, C., P463
Bloch, G., P136
Block, L. C., 543
Blok, H. L., P221
Blokland-Visser, J., 74
Blore, J. H., 58, 201, 290
Blouin, F. A., 270
Blount, C., Jr., P560
Blue Ridge Textile Co. Ltd., P40
Blumcke, A., 289
Blyablikov, N. P., 104
Blydenstein, W. J., 318
Blyuer, V. A., 291
Boardman & Baron Ltd., P179
Bobeth, W., 164
Bobo, F. E., Jr., P371, P461
Bocholt (Textilmeisterschule), 200
Bodden (William) & Sons Ltd., P175, 190
Bodell, P. T., P456
Boehringer (Gebr.) GmbH, P226, P324
Bogan, R. H., 499
Bogdan, J. F., 7, P92, 143, 285, 318
Bohm, V. C., P183
Bohringer, H., 231
Bokum, W. F., P456
Bolelli, A., P131
Bolger, H. S., 441
Bolger, J. A., P370
Bollenbacher, K., 327
Bolton, J. H., Jr., 188
Bombardieri, I., P224
Bonin, K. M., 147
Bonser, A. W., P37, P222
Boole, R., P374
Boone, J. V., 345
Booth, K. H. V., 105
Boothby, O., P91
Booy, C. G., 79, 127, 265, 497, 537
Borchardt, R. E., P39
Borg, H. F., P37
Borg (George W.) Corp., P228, P375
Borges, F. R., Jr., P322
Borghetty, H. C., 265, 437, 535
Borsten, H., 486
Bostock, W., 234
Boston Woven Hose & Rubber Co., P555
Boteler, W. C., 530
Boulton, J., 487
Bourne (S.) & Company, Ltd., P370
Bousquart, A., 331
Bouthillette, A., P324
Bower, F. C., P91
Bowers, R. C., 5
Bowman, W. W., 318, 330, 516
Boyer, S., 58
Boyer, W. T., P40
Bracewell, G. M., 8
Bradford Dyers Assoc. Ltd., P43, P182, P557
Bradley, H. B., P90

AUTHOR INDEX

Bradley, S. B., 13
Bradley, W., 255, 323
Bradshaw, J. A., P37
Brady, C. J., 453
Braithwaite (Isaac) & Son Engineers Ltd., P227
Braitis, A., 334
Bramer Maschinenfabrik P83
Bramma, F., 434
Brandt, R. E., P375
Brasseler, W., 30
Braun-Ronsdorf, M., 435
Braune, H. E., 429
Brearley, A., 258
Breens, L. F. H., 495
Breny, H., 192, 215
Brey, F. W., P464
Brickman, L., P375
Brierley, S., 10, 60, 202, 400, 438
Briggs, J. F., 233
Briggs-Shaffner Co., P222
Bright (John) & Brothers Ltd., P419
Brinton, E. T. C., P376
Brintons Ltd., P86, P376
Bristow, P. W., P88, P555
British Celanese Ltd., P38, P85, P137, P275, 283, P423, P552, P558
British Cotton Ind. Research Assoc., P133, P374, P420, P553
British Intercontinental Corp., P41
British Nylon Spinners Ltd., P43, P135, P228, 289, 393
British Rayon Research Assoc., P420
Broadbent, A., P92
Brockman, F. J., P459
Brommelsiek, W. F., 157
Brook, G., 163
Brooks, D. E., 1
Brooks, J. A., 304, 536
Brookshire, J. V., Jr., 318
Broomfield, J., P425
Broughton, G., 431
Brouillette, G. P., P505
Brown, A., 381
Brown, A. M., P88
Brown, B. J., P424
Brown, C. D., 242, 367
Brown, C. J., P40
Brown, F. C., 201
Brown, H. M., 195, 234, 286, 299, P426, 547, P551
Brown, J. J., 201, 210, 279, 296
Brown, J. L., Jr., 360
Brown, L., 310
Brown, W., 368
Brown, W. D., 203
Brown, W. S., P552
Brown & Green Ltd., P138
Brunner, N., P276
Brunnschweiler, D., 12, 127, 240, 241, 283
Brunnschweiler, E., 126
Brush Electronics Co., 22
Bryant, G. M., 270
Bryant, K. C., P559
Bryden, M., 492
Bryner, M., 437
Buchanan, A. E., P506
Buck, G. S., Jr., 165, 279
Buddicker-Lons, H. G., 154, 210, 298
Budzyna, W. J., P555
Buess, R., 114, 208
Bugard, P., P319
Buhler, H., 493, P551
Buhler-Krayer, H., P175
Buhrer, J., P461
Buhrke, V. E., 186
Bullard, E. J., P87
Bullard Clark Co., P87, P179
Burdett, H. S., P375
Buresh, F. M., P132, P181
Burkhart, W., 444
Burks, D., Jr., P378
Burlakova, A. N., 308
Burley, R. W., 385
Burley, S. T., Jr., 538
Burlington Engineering Co., Inc., P278
Burlington Industries, Inc., P324, P552
Burlington Mills Corp., P39
Burnet, A. L., P552
Burnett, G., 338
Burns, R. H., 384, 428
Burridge, K. G., P227, P424
Burrows, W. H., 73
Burrus, P. H., Jr., 317
Busch, W., 398
Busquets, J. B., P130
Buss, G., 191
Butcher, O. E., 392
Butler, E. S., P460
Butler, K. J., 24, 122, 149, 311, 414
Butler, R. K., P456
Butler, V. H., P39
Butterworth, J. L., P92
Byerley, W. G., P36
Cacella, A. F., 328
Cadorette, G., P422
Cain, C. W., P276
Calderwood, G. F. N., 273
Caldes, C. A., P86
Caldwell, S. A. G., 391
Callaway Mills Co., P458
Calzone, F., P131
Cameron, W. G., P379
Camp, G. D., 453
Campbell, G. C., P417
Campbell, H. N., P558
Campbell, J. 15, 515
Campbell, J. L., P378
Campbell, K. S., 140, 406
Campbell, R., 514
Campton, P. R., P174
Cannon, P. H., P91
Caraher, W. F., P275
Carbonetto, S., P219
Carlene, P. W., 48, 481, 537
Carlino, A. J., 254
Carmichael, R. D., P506
Caron, C. J., P422
Caroselli, R. F., 255
Carpenter, F., 161, 538
Carpet Trades Ltd., P226, P508
Carroll, H. W., P421
Carroll-Porczynski, C. Z., 213
Carson, R. G., Jr., 32
Carter, C. W., P549
Carter, J. S., P181
Carter (B. & F.) & Co. Ltd., 238
Cartwright, R. S., 81
Carwell, R. D., P90
Casablancas High Draft Co. Ltd., P35, P174, P506
Casati, G., P38, P177, P421
Case, J. C., P38
Casey, R. S., 465
Casper, L., P460
Cassella Farbwerke Mainkur, P183
Casty, R., 441
Caswell, E., 441
Catry, J., P223, P322, P323, P373, P460
Catry, R. N., P322
Cavallaro, L., 471
Cavaney, B., 470
Cazzaniga, C., P38, P177, P421
Cegarra, J., 353
Celanese Corp., P33, P43, P44, 47, P90, P91, P131, P184, P221, P229, P375, P419, P507, P556
Cellulose Development Corp. Ltd., P33
Cerini, L., 243
Chabrand, A., 98
Chadolon, Inc., P371, P461
Chadwick, G. E., 216
Chagro, M., 449
Chaikin, M., 139
Chakrabarti, B. K., 185
Chakrabarti, M., 442
Chakravarty, A. C., 21
Chamberlain, G. J., 125
Chamberlain, N. H., P36, 51, 139
Chambers, D. S., 317
Chambers, F., P86
Chapman, J. A., 74, 139
Charlett, S. M., 537
Charlois, P., P371
Charnley, F., 6, 468
Chase, G. A., 329
Chatterjee, H., 482
Chatterjee, R. P., 484
Chaucer, D., 217
Chaya, J. S., P37, P374
Chedin, J., 484
Cheetham, R. C., 115, 298
Chemstrand Corp., 209, P378, P549
Chen, C. Y., 366
Cheney, B. J., 516
Cheshire, A. F., 407
Chicopee Mfg. Corp., P89, P181, P226, P227, P376, P422, P460, P463
Chidiac, G. C., P420
Chinai, S. N., 168
Chipalkatti, H. R., 68
Chiplonkar, M. T., 465
Chitale, A. G., 546
Choquette, P. J., P560
Chouinard, A. E., 56, 150
Chouthoy, P. K., 302
Chowdhury, J. K., 484
Christiansen, C., P87, P553
Ciarloni, T., P133
Ciba Co. Inc., P137
Ciba Ltd., P43, P90, P228, P229, P380, P558
Cirr, H., 262
Claeys, M., P133
Clark, J. d'A., P89
Clark, J. F., 467
Clark, W. E. 492
Clarke, A. D., P558
Clarke, L. J., 252
Clarke, R. A. 304, 488
Clayton, E. L., P226
Clayton, F. H., 431
Clegg, R. R., P91
Clemmer, M. B., P90
Clemson College, P426, P551
Clentimack, G. E., P556
Clibbens, D. A., 62
Clifford, W. B., P321
Clinton, W. C., 5
Clough, D. A., P420, P551
Cluett, S. L., P557
Cluett, Peabody & Co. Inc., P228, P557
Coats (J. & P.) Ltd., P36
Coats and Clark, Inc., P462
Cobert, A. J., P375
Cobert, J. C., 200, 500
Cochran, J. K., P551
Cockett, S. R., P43, 532
Coe, A. B., 259
Coeurtys Soc. anon., P373
Cogovan, E. J., P277
Cohen, H., 532
Cohen, O. P., P136, P462, P553
Cohn, E., P136
Cohn, S., P136
Colbath, H. C., 357, 449
Colbeck, A. G. A., P551
Colbeck, W., P417
Cole, L., P320
Cole, P. M., P424
Coleman, M. H., 189
Collins, A., 245
Collins, Z. L., 69
Collins & Aikman Corp., P456
Colomb, P., 247
Colvin, J. J., P458
Comer, M. H., P553
Commercial Plastics Ltd., P558
Commonwealth Engineering Co., P278
Commonwealth Scientific & Industrial Research Organ., P509
Compagnie Francaise des Matieres Colorantes, P229
Comptoir Linier, P38, P179, P373
Compton, J., 109, 280
Compton, W. H., P458
Conciatori. A. B., 66
Conners, E. W., Jr., 243
Connor, W. S., 479
Conrad, C. M., 21
Consoletti. P. C., P276, P374
Constructions Mecaniques Lorraines, P220
Continental Gin Co., P505
Cook, A. A., 112
Cook, C. G., 249
Cook, J. M., 45, 466
Cooke, A. E., P225
Cooke, T. F., 64, 534
Cooley, E., 24
Cooper, A. S., 153
Coplan, M. J., 202, 473
Coppa, F., P322
Cords Ltd., P82
Cormann, L., 547
Corn Products Refining Co., P177
Corry, W. A., 203
Corson, J. B., P91
Coskren, R. J., 249
Cosslett, V. E., 160
Costruzioni Meccaniche, P321
Cotchett, L. M., P456
Cotterill, E., 56, P89, P176
Cotton, A., P220, P221
Coupez, M., 251
Coursey, J. E., P222
Courtaulds Ltd., P33, P42, P83, P84, P89, 96 P176, P219, P379, P425, P458, P463, P550
Coutie, G. A., 489
Cowgill, E., 124
Cowhey, J. S., P549
Cowhig, W. T., 24, 149, 311, 414
Cox, F. W., 267, 357, 498
Crabtree (David) & Son Ltd., P37, P459
Crandall, C. B., P420
Crandall, J. T., P371
Crank, J., 521
Cranston Print Works Co., P43
Craven, C. J., 312, 318
Crawford, A., P134
Crawford, H. E., P422
Creegan, H. F., 152, P278, 408
Crompton & Knowles Loom Works, P134, P180, P224, P276, P323, P420, P421, P422, P460
Cronic, C. O., 241, 293, 337, 398, 435, 478
Crossland, A., 435, 476, 528
Crossley (John) & Sons Ltd., P224
Crowe, J. B., 546
Crowther, L. G., P174
Crowther Ltd., 238, 313, 525
Cuijpers, H., 516, 529
Culpepper, C. M., P133
Culpepper, J., P133
Cummings, C. L., P426
Curlator Corp., P132, P181
Curtis, G., P84
Cusick, G. E., 367
Cusick, W. E., P89
Custom Scientific Instruments, Inc., P560
Cuvelier, G., 443
Dabrowski, S., 287
Dacey, W. F., P559
Dahlem, H., 358
Dakin, G., 142
Dalglish, J., 298
Dalglish (John) & Sons Ltd., P230
Dalle, O., P133
Dangel, P. N., P423
Danselme, A., 469
Darby, L. G., 69
Dardani, E. V., P461
Dariel, J., 523
Dart, S. L., 121, 371
Darwin, C., P134
Das, D. B., 161, 513
Das Gupta, P. C., 512
Daul, G. C., 205, 269, P559
Daun, F., 191
Dausch, E. F., P36
Davenport, A., P131
Davidson, A. N., P137, 345
Davidson, G. F., 451
Davies, E. J., 299
Davies, F., P374, P553
Davies, O. L., 20
Davies, P. S., P83
Davies, R., P226, P508
Davies-Young Soap Co., P228
Davis, F. V., P42
Davis, W., 60

AUTHOR INDEX

Davis, W. L., P456
Davis & Furber Machine Co., P35
Davison, S., 244
Dawson (Thomas) Shuttle-makers Ltd., P179
Dayton Rubber Co., P86
Dean, J. C., P178
Dearden, B. B., P220, P418
DeBacker, G., 94
Deck, A., 71
Deck, P., P91
de Clercq, G., 215
de Dani, A., 283
Dee, T. E., Jr., 481
Deering Milliken Research Trust, 52, P84, P132, P138
DeGruy, I. V., 542
de Halleux, P., P221
De Ketele, M., 297
Delany, J. L., 236, 317, 360, 545
de Lathauwer, R. J., P35, P370
Dellian, K., 486
Delventhal, J., 8, 162, 261, 286
deMaCarty, P. C., 514
de Malatinszky, P., 350
de Marsano, P., 98, 99
de Mestral, G., P508
De Meulemeester, D., 94, 121, 215
Deming, D., 317
Demiruren, A. S., 384, 428
deMonte, N. T. H., 235
Denholm, D. H., 266, 528
Deniston, G. L., P278
Dennett, F. L., 251
Denovan, J. J., P173
Denovan, R. A., P173
Derbyshire, A. N., 362, 490
Derenberg, W. J., 31
Deribere, M., 116, 492
Desai, N. F., 68
De Santis, F. G., P275
Despres, U. H., P219
Desprets, P., 290
Deussen, J., 104
Deutsch, H. P84
Deutsche Gold-und Silber-Scheideanstalt P228, P326 P424
Deutscher Spinnereimaschinenbau Ingolstadt P44, P426
Devoge and Co. Ltd., 149
de Vries, H., 121
Dewaele, C., P374
Dewas, R., P133, P373, P420
Diamond Hosiery Corp., P462
Diaz, R. B., 78
Dick (A. B.) Co., P89
Dickson, J. B., 198, 531
Diebold, J., 416
Diehl, F. L., 546
Diem, W., P91
Dietz, W., P373, P459, P508
Dildilian, A. T., P222
Dion, R. F., P180
Dittrich, H., 524
Dixon, E., 52
Dixon, J. K., P278
Dixon Lubricating Saddle Co., P417, P457
Dobeckmun Co., P419, P425
Dodge, E. P., P419
Dodge, S. O., P39, P277
Dole, M. C., II, P174
Doll, E., P132
Doll, J., P222
Dolling, F., P81
Dolmetsch, H., 2
Doniger, S. P276
Dorset, B. C. M., 3, 104, 155 209, 250, 402
Dorset, C. M., 347
Doser, A., P378
Dosmann, L. P., P90
Dougherty, R. W., P90
Douglas, G. T., P183
Douglas, S., Jr., 248
Doutors Soc. anon. Holding, P131, P221
Dow Corning Co. Ltd., P507
Downing, J., P423
Dracup (Samuel) & Sons Ltd., 294
Drake, G. L., Jr., 124, 303
Drake, W. H., P422
Draper, J. C., P226
Draper Corp., 57, P179, P224, P276, P277, P374, P422, P554, P555, P556
Dreby, E. C., III, P183
Drijvers, L., 68, 306
Druce, E., 442
Drummond, W. W., P458
Drummondville Cotton Co. Ltd, P223, P374, P508
Dubar, M., 11
Dubied (Edouard) & Cie, P555
Dubied Machinery Co., P324, 875, P462, P555
Dudding, B. P., 361
Dudkowski, J. J., P42
Duesberg, H. C. M. H., P370
Duessen, J., 11
Duff, J. M., P458
Duffett, J. R., 20
Duffin, G. F., P136
Duggan, P. C., 207
Dumoulin, R., 56
Dungler, J., P184, P380
Dunlop Rubber Co. Ltd., P135, P136, P180, P227, P320, P371, P377, P418, P424
Duplan Corp., P226, P551
Dupont, M., 352
du Pont (E. I.) de Nemours & Co., P33, P41, 106, P136, P137, P184, P275, P278, 346, 400, P424, P458, P463, 522, P559, P560
Du Pont Co. of Canada Ltd., P459
Durst, A., 490
Dusenbury, J. H., 259, 386, 514, 534
Dutt, A. S., 260
Dutton, W. A., 436
Duval, B., 337
Duveau, N., 415
Dyck, R. G., 128
Dyken, C. P., P227
Dynamit AG, P43
Dyson, E., 236, 311
Earland, C., 364
Earle, N. K., P424
Earnshaw, A., P455
Easton, B. K., 533
Eberhart, D. R., P182
Ebert, M. E., P555
Eccles, T., P85
Ecochard, F., 74
Edelman, A., P375, P419
Edelmann, G., 503, 524
Edelstein, S. M., 156, 253, 533
Eeg-Olofsson, T., 264
Egee, W. W., P129, P221, P458, P464
Egerton, G. S., 19, 72
Egli, H., 158
Egli, P., 341
Eheim, W., P222
Eichin, H. P., P90
Eisler, A. J., P460
Electrical Products (Colne) Ltd., P174
Electronic Associates Ltd., 76
Electronics (Bradford) Ltd., P417
Electrotex Corp., P460
Ellenis, E. T., 247
Ellinger, W., 445
Elliott, A., 213
Elliott, G. H., 107
Elliott, H. J., 110, 254
Elliott, J. M., P457
Elliott, R. L., 46
Ellis, R. M., Jr., 59
Ellison, A. H., 28
Elod, E., 298, 338
Emblem, H. G., P137
Emeline, S., 245
Emery Industries, Inc., P42
Emiliani, E., 94
Emmanuel, M. V., 143
Engelhaupt, W., 432
England, L. W., 318
English, W., 292, 476, 527
Enrick, N. L., 26, 78, 167, 218, 258, 268, 317, 318, 361, 442, 500, 545
Enterprise-Moakler Co. Inc., P230
Erikson, C. O., P44, 344
Eskdale, J., P38
Esler, R. B., P419
Esslinger, W. H., 317
Estabrook, G. A., 536
Esturazes Balmes, Soc. Anon. P456
Evans, J. G., P43, P182, P378, P557
Evans, L. F., 166
Evans, T. R., P377
Evenson, J. P., 383, 538
Eves, F. S., P276, P322
Ewald, P. R., 540
Ewers, W. E., 166
Ewing, H., P38, P278, P558
Excelsior Loom Reed Works, Inc., P225
Ezell, D., P463
F. N. F. Ltd., P372, 479
Fabric Development Co. Ltd., P278, P325
Fabric Research Laboratories, Inc., P181, P426
Fahrbach, R., 189, 284
Fairhope Fabrics, Inc., P277
Fairwest (U.K.) Ltd., P223, P322, P323, P373, P460
Faldik, H., 405
Famatex GmbH P425
Farnworth, A. J., 403
Farquhar, B. S., 4
Farrell, R. J., 55
Faulkner, C. F., P464
Feather, E. E., P370, P418, P455, P550
Federal Leather Co., P277
Federico de los Santos Izquierdo, P555
Fedorov, I. A., 159
Fedorova, N. E., 308
Feldmann, P., 533
Feldner, G., 15
Felix, E., 315, 443
Felks, D. E., P176
Fell, E. T., P136, P558
Felton, W., P37, P459
Fenell, L. F., P459
Fenner (J. H.) and Co., P135
Ferber, K. H., 217
Ferguson, L. A., P90
Ferlazzo, A. P., P556
Fern, A. S., 406, 555
Fetscher, C. A., P228
Feustel, E. A., P556
Fidelity Machine Co. Inc., P88
Fieldcrest Mills, Inc. P225, P323, P425, P464
Fife, J. A., 317
Figi, J., P457
Filatures et Moulinages de l'Ardecha Fimola, P220
Filter, W., P38
Fincher, W. C., P554
Findlow, E., P36, P82, P84
Fine, R. D., 340, 453
Fine Spinners & Doublers Ltd., P37, P222, P550
Fineman, M. N., 111, 449, 501
Finkelshtein, I. I., 331
Finlow, E., P371
Fiori, L. A., 210, 279
Firestone Tire & Rubber Co., P419
Firma Busch-Werke AG., P461
Firth, A., P223
Firth Carpet Co., P136, P174, P509, P554
Firth (T. F.) & Sons Ltd., P424
Fischer, B., 76
Fischer, J., 160
Fischer, M., P551
Fischer (G) AG P38, P373
Fischer-Bobsien, C. H., 345
Fisher, C. H., 93
Fisher, J., P39
Fisher, J. W., 5, P85, P423
Fishman, M., 343
Fishwick, T., P82, P88
Fitton, C., P175
Flamand, M. R., P179, P224, P374
Fleckenstein, C. J., P556
Fleischer, S. S. C., P178, P553
Fletcher, H. M., 106
Fletcher Works Inc., P129, P221, P458, P464
Fleysher, M. H., P230
Florio, F. A., P228, 450
Fluck, L. A., 317, P510
Flugal, W., 158, 490
Foisy, R., P133
Foruemwalt, F., 116
Forestier, L., P133
Forgas, P. B., P130
Formenti, P87
Formenti (Fabbriche) S. A. P133
Formisano, M., 95
Fornelli, D., 28, 250, 344, 400, 483
Fortess, F., 17, 63, 66, 439
Forward, M. V., 195
Forziati, F. H., 271
Fosdick, L. S., 269
Foster, B. H., P326
Foster, G. A. R., 470
Foster, H. E., 317
Foster, J. R., 81, P549
Foster Machine Co., P419
Fothergill & Harvey Ltd., P424
Foulds, K. E., 234, 286
Foulk, T., P422
Foulon, C., 542
Fountain, H., P43
Fourne, F., 409
Fourt, L., 110, 254
Fowler, J. A., 489
Fox, G., 351
Fox, M. R., 68, 69, P229, 307
Fraim, F. W., 203
Franceschini, L., P134
Francois, J., 10
Frank (Karl) GmbH, 263
Franken, A., 117, 255, 256, 347
Fransen, T., 121, 538
Fraser, R. D. B., 186
Fraser (Douglas) & Sons Ltd., 54
Frauchiger, H., P464
Frederick, E. R., P92
Freedman, E., 217
Freeland, C. A., P85, P373
Freeman, S. M., 234
Fremon, G. H., 516
Frenkel, I., P83
Frenzel, W., 193, 494
Fresco, A., 216
Freudenberg (Carl) K. G., P89
Frick, J. G., Jr., 112
Frickert, P. J., P458
Frider, L., 531
Friedl, J. L., 274
Friedl, T., 188
Friedlander, G., P226
Friedmann, A., P226
Friedrich, A., 430
Frishman, D., 25, 254
Frisoli, L. D., P181
Frith, H. F., Jr., P89
Frith (Hagin) & Sons P89
Frohlich, H. G., 115, 405
Frost, R. G., 19, 206
Frotscher, H., 247
Fry, D. J., P326
Frye, L. F., P177
Fujino, K., 272, 427, 472
Fukunaga, S., 265
Fumat, J., P554
Furst, S., P81
Furvik, N. B., 119
Gage, G., 9
Galassi, G., 478
Galbraith, R. L., 244
Gamache, J. P., P219
Gangli, L. A. B., 190
Gantz, G. M., 204, 488
Gardes, A. W. P34, P549

AUTHOR INDEX

Gardner, J. M., P372
Garrett, D. A., P92
Gartside, H. E., 284
Gasser, A., 291, 394
Gasser, F., 404
Gates Rubber Co., P378
Gatling, A. D., P371, P418
Gaunt, A., P424
Gaunt, W., P34
Gaunt, Rhodes & Bower Ltd., P34
Gaus, G. E., 161
Gautier, J., 45
Gebelein, C. G., 449, 501
Gebert, R. C., P325
Gee, G., P508
Geering, R. C., 344
Geeson, T., P377
Geidner, T., P377
Geidner, W., P377
Geigy (J. R.) AG, P44, P558, P559
Geisberger, S., P464
Gelzenlichter, H. A., P227
General Aniline & Film Corp., P43, P229, P560
General Electric Co., P510
General Electric Co. Ltd., P135, 314
Gensel, H., 474
Gentle, A. H., P558
German Standards Comm., 13, 77, 316, 496
Gesellschaft zur Forderung der Forschung, P553
Getchell, N. F., 169
Ghose, A., 484
Giandomenici, M., 25
Giandomenici, U., P325
Gibbons, G. I., 127
Gibney, W. J., P138
Gibson, E. C., P378, P549
Gibson, R., 293
Giemza, T. J., P220
Giers, S., 248
Giles, C. H., 68, 345
Gilfillan, E. S., 504
Gill, R., 407
Gillibrand, C. G., P319
Gillies, A. S., 267
Gingher, C. H., P461
Ginzburg, L. N., 520
Girling, A. H. G., P560
Girtanner, V., 402
Glanzstoff-Fabriken (Vereinigte) AG, P91, P419
Glarum, S. N., 482
Glaser, A., P549
Glaskin, A. 479, 530
Glass Fibers, Inc., P226
Glatt, H., P227
Gleitz, J. D., P321
Glenn Mills, Inc., P175
Glynn, M. V., 258
Godley, P., P371
Goglia, M. J., 242
Golaski, W. M., P556
Golaszewski, W. M., P375
Goldberg, J. B., 80
Golden, R. L., 186, 233
Goldman, M. A., P376
Goldsmith, M. T., 274
Goldsworthy, Y. E., 3
Goldthwait, C. F., 110
Gonsalves, V. E., 75, 414
Goodall-Sanford, Inc., P371
Goodgame, J. B., P421
Goodings, A. C., 202
Goodwin, L. C., P420
Goodyear Tire & Rubber Company, P376
Gordeev, V. A., 349
Gorkov, V. K., 336
Goshawk, E. R., P550
Gosselin, W. J., P134, P554
Goswami, M., 23
Goto, H., 99, 518
Gotte, E., 29, 170
Gotze, K., 30
Gould, M., P82
Graber, H., 246
Grady. J. R., P131
Graeser, W., 388. 437
Graham, B., P463
Graham, J. G., 114, P183
Graham, J. S., 234, 286
Gralen, N. 119
Granberry, E. H., P230
Grant, J. N., 109, 411
Grasser & Co. AG, P183
Graton & Knight Co., P38
Gray, J. H., P221
Gray, T. E. H., P227
Great Lakes Mills, Inc., P230
Greathouse, G. A., 362
Greathouse, L. H., 109
Green, B. E., P133
Green, D. R., P457, P506
Green, I. H. C., P180
Greene, O. W., P173
Greenhalgh, K., 8
Greenwald, H. L., 449, 501
Greenwalt, J. F, P222
Greenwood, F. A., P44
Greenwood, K., 241, 527
Gregg, R. A., P559
Gregory, J., 521
Gregsten, M. J., 445
Grieco, D. J., P35
Griesbach, O., P556
Griffin, I. L., P132, P133
Griffin, T. F., 190
Griffiths, W. M., P83
Grimalouski, E. A., 203
Grimes, M. A., 480
Grimm, A., P425
Grimsley, G. F., P89
Grimsley & Co. (Leicester) Ltd., P89
Griset, E. J., Jr., P219
Grishin, P. F., 50, 192
Grivor, P., 12
Groat, F. P., P325, P509
Grob & Cie AG, P177
Groh, A. J., P222, P507
Grosberg, P., 282, 350, 351
Gross, D., P41, P463
Gross, I., P277
Gross, M. C., 52, 75, 102, 520
Gross, P. H., 486
Grossmann, O. V., 22
Grove, C. S., Jr., 465
Gudgeon, R. P., P138
Guha, S. K., 513
Guillemette, D. V., 409
Guillemette, R., P277
Guimbretiere, L. F., P319
Gumbel, E. J., 73
Gunter, R., 287
Gurtler, H., 409
Gusken (Jean) GmbH, 104
Gustav, A., P417
Guthrie, J. C., 93
Guthrie, J. D., P42, 124, 303
Gutmann, F., 536
Gutt, A., 287
Gwaltney, E. C., P455
Hablutzel, E., 110, 257, 408
Hadamzyk, G., 333
Haddad, S. J., P40
Hadfield, H. R., P137, P183, 406
Hadley, W. N., P91, P278, P464
Hadwich, F., P221, 539
Hadworth (Richard) & Company, Ltd., P374
Haehnel, H. E., P277
Haensel, M. R., P376
Haering, P., 305
Hafner, E. E., P324, P375, P462, P555
Hagen, F., 119
Hagenuk Hanseatische GmbH, P82
Hager, H. E., 78
Hahn, B., 347
Haigh, D., 70, 531
Haigh, J. B., P175
Hajek, J., 295
Halbach, K., 352
Haldeman, W. A., 357
Hall, A. J., 114, 153, 169, 187, 203, 207, 339, 383, 439, 500, 534
Hall, A. M.. P509
Hall, S., P219
Hall, W. P., P378
Hall & Kay Ltd., P219
Hallcrqft Electrical & Mechanical Apparatus Co. Ltd., P321
Haller, E., P323
Halpach, K., 123
Halstead, R., P39
Halstenbach, W., P459
Haltmeier, A., P426
Hamburger, W. J., 203, P426, 529
Hamelin, L., 390
Hamilton, J., P136
Hamlin, A. G., 25, 354
Hammer, I. P., P43
Hampson, A. G., 414
Hanby, W. E., 213
Hannah, M., 145, 163
Hannay, R. S. E., P229
Hannover, A., 200
Hansen, H., 154, 210, 298
Hansen, P. F., P553
Hantsch, B., 256
Harcourt, H., P424
Hardaker, H., P133
Hardaker (John T.) Ltd., P133, P223, P323, P553
Harden, M. R., 15, 79
Harding, A. J. L., P229
Harding, J. H., P421
Hardman & Holden Ltd., P183, P379
Hardwood Mfg. Co., P39
Hare, W. A., P33
Hargreaves, H., P39, P178
Hargreaves, T., 530
Harker, R. P., 355
Harland, S. C., 185
Harland, W. G., 502
Harley, F. L., Sr., P506
Harmon, C., 141, P181, P375
Harris, C. R., P220
Harris, G. A., 69
Harris, J. L., P43
Harris, M., 80, 254
Harris, P., 306
Harris, S. A., P222
Harris, W. W., Jr., 487
Harris Research Laboratories, 1
Harrison, P. W., 263
Hart, A. S. C., P178
Hart, J. R., P87
Hart, W. J., 280
Hartenhauer, H. P., 49, 281, 287
Hartman, O., P275
Hartquist, V. T., 65
Hartstein, F. W., P423
Harwood, K. J., P509
Harwood, S., P174
Harwood (G. S.) & Son, P174
Hasselbach & Co., P325
Hassold, V. C., P87
Hatano, A., 270
Hathaway Mfg. Co., P182
Hatton, R. S., P82
Haug, E., P173
Hausermann, J. L., 71, 110, 257, 408
Haussler, E., 107
Haven, H. L., P380
Haverstock, J. J., P380
Hawley, T. G., 164
Haworth (Richard) & Co., P39
Hayakwa, K., 430
Haydel, C. H., 109
Hayden, M. W., P425
Hayes, J. F., 128
Haynes, G. W., 317
Haythornthwaite, J. J., P36
Hayward, B. W., 453
Hazeltine, J. E., Jr., P227
Head, F. S. H., 271, 451, 546
Heard, M. Earl, Jr., P457
Hearle, J. W. S., 259, 327, 367, 412
Heatley, H. R., P553
Heatley & Sons Ltd. P553
Heberlein & Co. AG, P89, P182, P184
Heffelfinger, R. D., 215
Heidenreich & Harbeck, P320
Heiges, E. O. J., 111
Heim, L. R., P87, P134, P179
Heim Co., P87, P134, P179, P461
Heinrich, H. G., 203
Heizer, E. J., P458
Heldmaier, L., P380
Hellern, B., 266
Hellgartner & Pfanzelt, 75
Helliwell, E. H., 9
Hemphill Co., P180, P324, P555, P556
Hennessey, J. H., P560
Hennig, H., 531
Henry, G. E., P43
Henry, W. V., P37
Hensley, M. L., 106
Hentschel, K., 164, 262
Herard, A. J., Jr., P276, P420
Herbert, A. E., P419
Hercules Mfg. Co., P319
Herrera, J. A., P129
Herring, F. D., 397, 434, 477
Herrnstadt, G. E., P509
Hersh, S. P., 273, 274
Hertel, K. L., P278, 312, 318
Herzog, A., 313
Hess, N. W., P559
Hesse, E. O., 11, 148
Hesse, H., 494
Hessler, L. E., 185, 231, 511
Hester, F. C., P135
Heukelkian, H., 359
Heukers, E., 106, 479
Heuser, E., 467
Hewitt, W. A., 55
Heyn, A. N. J., 313, 503
Heywood, F., P418
Hicks, J. W., Jr., P132
Higgins, E. B., P378
Higuchi, K., 99
Hilaturas Ibericas, S. A., P550
Hilbert, R. G., P419
Hilgers, F., 30
Hill, R. A., P464
Hilton, C. L., 498
Hilton, K. A., 532
Hinchliffe, G., 107, 151, 202, 245, 296
Hindle, W. H., 209, P229, 305
Hirschberger, P., P462
Hirst, D. G., P425
Hispano Suiza, P84, P320, 430
Hobourn, P. L., P83, P371
Hobourn Aero Components, Ltd., P37, P83
Hock, C. W. 450
Hodgkins, E. J., P423
Hodgson, W., 330
Hoechst (Farbwerke) AG, P90, P183, P379
Hoefer, K. E., P556
Hoeselbarth, F. W. E., P181, P225, P323, P325, P421, P423, P461, P462, P554
Hofer, H., P319
Hoff, P., 257
Hoffman, B., 441
Hoffman, F. W., P138
Hoffman, M. T., P372
Hoffpauir, C. L., 483
Hofmann, H., 237
Hofmann (Alfred) & Co., P555
Hofstetter, H., P505
Hogg, W. H., P377
Hogue, C. H., P509
Holaday, C. E., 412
Holcombe, H. H., P39
Holder, M., 244
Holland, K., 198
Hollis, J. E., Jr., P224
Hollstein, H., 434
Holmes, J. M., P557
Holmes, R. J., 547
Holt, F., P373
Holt, F. B., P220, P221
Holt, L. C., P549
Holt (Thomas) Ltd., P373, 433, P459, P552
Holtzclaw, G. B., P39
Holz, H. M., 338
Honan-Crane Corp., P34
Honegger, E. 290
Hookway, D. C., 515
Hooper, N., P82, P83, P84, P130, P175
Hope, R. J., 343
Horino, T., 272, 427
Hornberger, J. L., P88
Horne, K. W., P132
Horner, J. L., 355

AUTHOR INDEX

Horowitz, E., 479
Horrocks, D., 19
Hosemaster Machine Co. Ltd., P134, P462, P557
Hosick, T. R., 498
Hosoda, K., 436
Hothorn, A., 57
Hoton, P., 256, 257
Houdaille-Hershey, Inc., P549 P459
Houghton, D. E., P180
Howcroft, G. B., 544
Howell, J. H., 69
Howell, N. A., 279
Howes, I. C., P35
Howitt, F. O., P137, 271, 355
Howlett, E. J., P227
Hoxie, H. M., P378
Huckel, M., 486
Hude, G., 299
Hudson, R. F., 3
Hueber, J., 72, 309
Hug, R., P277
Hughes, L. E., P41
Hughes, O., 339
Hummel, G., 30
Hundt, W., 481, 533
Hunlich, R., 342, 394, 396
Hunt, J. L., P420
Hunt, T. R., P421
Hunt (Rodney) Machine Co., P278
Hunter, A. W., P426
Hunter, W. A., P34, P319
Hunter (James) Machine Co., P138, P173, P378
Hurd, R., P325
Hutchins, A. S., P421
Hutchinson, D., P550
Hutchinson, G. C., P378
Iannarone, J. J., Jr., P137
Ichino, S., 518
Ideal Industries, Inc., P370
Ikeda, S., 264, 297, 339
Ilford Ltd., P136, P326
Illingworth, J. W., 4, 47, P320
Imamura, K., 192
Imperial Chemical Industries Ltd., P82, P90, P92, P137, P173, P181, P182 P183, P227, P228, P229, P325, P369, P424, 434, 490, 526, P559
Inchino, S., 99
Industrial Accountancy Partnership Ltd., P325
Industrial Laboratory, Inc., P505
Industrial Rayon Corp., P219
Infants Socks, Inc., P88, P226
Innemann, O., 532
Inoue, T., 272
Inter. Cellucotton Products Co., P509
Inter. Wool Textile Organization. 259
Interwoven Stocking Co., P225, P324
Inventa AG, P33
Irion, C. E., P425
Isard, J. O., 442
Ishikawa, I., 430
Ishikawa, K., 311
Ishikawa, S., 99, 103, 191, 519
Israel, H., 314
Iwanow, N., 217
Iyengar, R. L. N., 213
Jacks, S. B. L., 548
Jackson, D. L. C., 403
Jackson, H., 453
Jackson, J. R. F., P182
Jackson, R. J., P423
Jackson, T., P137, P558
Jacobs, F. F., P137
Jacoby, R. W., 115, 532
Jacquard Knitting Machine Co., Inc., P88
Jagler, H., 238
Jansen, C. O., P225
Jansen, O., 57, 106
Janssen, H. J., 109
Jass, H. E., 269
Jee, A. R., P174
Jefferson, G. D., P41
Jeffrey, G. M., 502
Jeffries, R., 445
Jennett, W. J., 361
Jennings, E. J., 214, 317
Jennings, H. Y., 111
Jensen, J., 447
Jentsch, E., P37
Jervis, R. G., P84
Johnson, A., 60
Johnson, A. E., 170
Johnson, B., 279
Johnson, E. A., 266
Johnson, P. E., P182
Johnson, R., P374
Johnson and Hartley Ltd., P220, P418
Johnson and Johnson, P375
Johnson and Johnson (Gt. Britain) Ltd., P42
Johnston, A., 384
Jolliff, E. C., 348
Jolly, G. H., 545
Jones, A. S., P43
Jones, P. E., 488
Jones, W., P369
Jones-Hinton, J., P227
Jorder, H., 72
Jordinson, F., 249
Joseph, Sister R., 233
Joshi, G. D., 516
Jowett, B., 50, 101, 192, 237, 288, 333, 388, 431, 468
Joyce, G. C., P553
Julicher, W., 491
Junges, W., 160
Kabelitz, H., P326
Kachurin, M. G., 299
Kachs, A., 159
Kagi, H., 541
Kahler, W. H., P182
Kalkman, J. A., 105, 123, 263, 395, 412, 415
Kalwaites, F., P220
Kano, T., 273
Kapella, G. E., 127
Kapella Ltd., P131
Karabinos, J. V., 127
Karr, N., 343
Karrholm, E. M., 467
Kastrup, E., P129
Kastrup, W., P129
Kato, T., 99
Kattermann, E. D., P461
Katti, P. K., 465
Katzbeck, W. J., P177
Kaufmann, F. H., P555
Kaufmann, J. J., P323
Kaul, E. W., P556
Kawai, H., 272, 427
Kay, H., P91
Keating, E. J., 153
Keay (Thomas C.,) Ltd., P179
Keeler, L. M., P129
Keerd, L. Y., 301
Keggin J. F., P424, P559
Keily, V. C., P557
Keller, W., 255
Kellogg, W. D., P458
Kelly, J. E., 189
Kelly, M. J., 32
Kempf, W. K., 341
Kendall, J. D., P136, P326
Kendall Co., P226, P378, P423
Kenyon, W. A., P422
Kenyon (William) & Sons Ltd. 244, P422
Keppler, R., 16, 62
Kern, J. G., 65
Kern, R., P220
Kerr, R. W., P177
Kester, G. H., 529
Keyes Fibre Co., P219
Keyser, W. R., Jr., 280
Khokhlov, V. D., 336
Kidde Mfg., Inc., P40, P134, P135
Kiefer, E., 309
Kiefer, O., 410
Kiener, C., P323
Kienle, R. H., 534
Kilby, W., P43, P229
Kimmel, W. E., P323
Kimura, M., 239
Kine, B. B., P510
King, B. E., P36, 51, 503
King, C. W., P36
King, D., 409
King, G., 272
King, J., 310
King, J. C., 267
Kinney, J. M., 245
Kinzinger, S. M., P228
Kirby, R., 327
Kirchner, H., 120
Kirschner, B., 193, 361
Kittel, H. 51, 310, 410
Klaus, W., 545
Klein, N. E., P84
Klein, W. G., 473
Kleinert, T. N., 77, 107, 125, 500, 542
Klenk, H., 259
Kling, W., 29, 170
Klinger, S., 390
Klingsberg, E., 125
Knapp-Monarch Co., P325
Knobel, R., 537
Knohl, H., P423
Knowland, T. M., P555
Knowles, R. A., P379
Kob, H., 119
Kobayashi, M., 192
Koblanck, H., 160
Koch, F., P91, 147
Koch, P. A., 4, 47, 95, P183, 187, 283, 387, 515
Koch, W. F., 246
Kochhar, P. C., 49, 285, 517
Koebner, A. P510
Koefoed, Hauberg P321
Kohler, F. K., P88
Kohler, P., 234
Kohler, P. F., P88
Koller, E., 31
Konig, O., 23, 390, 469
Koons, L. O., P183
Kop'ev, A. A., 113, 300
Korma Mills Ltd., P226
Kosek, A., P85
Koslow, G. E., P419
Kosmin, M., P42
Kourtz, R. E., 116
Krahenbuhl, E., 117
Kramer, B., 308
Kramer, H., 545
Kramers, A. A. J., 242
Kramrisch, B., 253
Krantz, H. and W., P91
Krantz (H.) Sohne, 72
Krasny, J. F., 80, 338
Krassig, H., 366
Krauss, E. J., P462
Krauss, R. J., P462
Krauss, S. G., P462
Kreamer, W. H., P464
Kreisel, K., 293
Kress, F., 490
Kroner, K., 243
Kresek, H. W., 447
Krug, G., 293
Krug, P., P183, P379
Kruger, R., 241
Krukonis, A. C., P134, P180
Kubelka, K., P178
Kucherov, B. K., 288
Kufner, G., P129
Kugellagerfabriken (Vereinigte) AG, P35, P36, P456, P551
Kuljian, H. A., P41
Kulmbacher Spinnerei, P34
Kumpers, C. L., P81
Kundig, S., 154
Kundu, B. C., 231
Kuniholm, D. A., 267, 499
Kunstzijdespinnerij Nyma N. V., P377
Kunze, H., 352
Kunze, W., 66, 305, 539
Kurashiki Rayon Co., 47
Kureha Spinning Co. Ltd., 191
Kurosaki, S., 518
Kurtz (Ph.) Eisenwerk, P225
Kurzyniec, S., 287
Kuster, L., P83
Kusters, E., P326
Kuze, E., 528
Kwok, D. C. W., 543
Kyame, G. J., 284
Kyoto Rayon Co. Ltd., 96
Labarthe, J., 453
Laborde, A., 494
Labriffe, C., 150
Lacey, E. D., P41, P226
Lacy, G., P419
Ladhams, G., 356
Lafeuillade, M., P40
la Fleur, A., 74
Lako, J., 122, 123, 413
Lal, B. B., 349
Lambach, F., P222, P556
Lancashire, J. B., 13, 58, 106, 201, 242, 398
Landau, A. L., 146, 357, 517
Landau, L., P377
Landells, G., P43, 364, P557
Landerl, H. P., 440, 487
Landesman, E., P230
Landis & Gyr AG, P380
Landolt, K., P131, P371, P417
Landolt (C.) & Company P371, P417
Landon, R., 396, 527
Landquist, N. D., P44, 344
Landsdowne Steel & Iron Co., P324
Landstreet, C. B., 540
Lane, F. H., P136
Lang, A., 194, 477, 527
Lang, W., 543
Lang, W. R., 3, 385
Langdon, H. H., P132, P181
Langlois, W. J., 143, 189
Langsdorff, W., P320
Langston, J. H., 299
Lankro Chemicals Ltd., P510
Lannan, G. M., P176
Lapple, W. C., 492
Larain, A., P460
Larkin, W., P88
Laszlo, A., P557
Latham, F. W., P179
Latief, M. A., 274
Latieule, Y., P38, P179, P373
Latour, T. R., P458
Laucius, J. F., 304
Laudani, H., 488
Laupman, R. R., P379
Laurel Hosiery Co., P88
Laurent, P., 392
Laurie, K. S., P230
Lauterbach, H. G., 151
LaVier, H. W. S., 203, 242, 398, 530
Lavrakas, V., 203, 263
Lawrence, E. W., 251
Lawsberg, C. L., P560
Lawson, D. I., 445
Lawson, N., P41, P180
Lawson, R. H., P40, P324, P555
Leach, J. H., P182, P378
Leach, M. L., 246
Leader, S. A., P182
Leaf, G. A. V., 530
Leath, W. J., P371, P461
Leatherland, L. C., 511
Leaver, J. F., P177
Leblanc, L., 478
Lebuy, P., P132
Leclerc, E., 166
Le Dain, H. J., P509
Leder, & Co. AG, P459
Lee, G., P373
Lee, P. A., P224
Lee, R. H., P224
Leach, D., 295
Lees (James) & Sons Co. P135, P325, P460, P461
Legzer, J. A., P137
Leitgeb, D. J., 512
Lemin, D. R., 489
Lemiszka, T., 427
Lemon, H., 468
Lennox, F. G., 427
Lennox-Kerr, P., 514
Leotta, S. S., P324
Lerch, E. J., P88
Lermond, C. A., 126, 216
Le Roux, P. L., 466
Lesser, M. A., 308
Leval, M., 526
Leventhal, H. L., 339

AUTHOR INDEX

Levi, V., 216
Levinger, M., P376
Lewis, D. L., P135
Lewis, H. G., 214, 317
Lewis, R. A., 516
Lewis & Taylor Ltd., P41, P180
Li, C. H., 212
Li, P., 201
Libby, C. F., P87
Liberty, V. J., 267
Liebchen, W., 395
Lieberknecht (Karl) Inc., P226
Lieberman, G. J., 348
Lieblein, J., 73
Liebrandt (Karl), P135
Liebscher, U., 160
Liewald, F., 303
Lindauer Dornier GmbH., P464
Lindel, A., P319
Linden, L., 504
Lindley, F. W., 115
Lindly Insturment & Machine Corp., 24, 165
Lindner, G., 494
Lindner, K., P41
Lindsey, C. H., 29
Lineken, E. E., 534
Linen Industry Research Assoc., P222
Lints, R. V., P89, P226, P227
Lippincott, S., 96
Lipscomb, R., P369
Lipson, M., 343
Liquorice, W. F., P137, 304
Lister, G. H., 254
Litchfield, R. G., P375
Little, J. R., Jr., P277
Litty, P., P138
Litvan, J., P549
Litzler, C. A., 302
Livermore (H. F.) Corp., P39, P277
Livesey (Henry) Ltd., 240
Livsey, G., P320
Lobl, V., 151, 152
Locher, H., 413
Locker, R., 471
Lode, W., 80
Loeb, L., 365
Logan, A. L., P510
Logan, R. J., P173
Lomax, J., 73
Lomax, R., P557
Lombardi, V., P556
London, M., 163, 206
Loosli, H., P558
Lorcher, O., 23
Lord, E., 139, 272
Lord, J., 446, 447
Lord, W., P180
Lorenz, K. H., P418
Lorenz, M., 494
Lott, D. F., 113
Lourd, J. L. J., P129
Lourigan, G. H., 281
Loury, M., 265
Love, L., 530
Love, W. L., Jr., P91
Loveless, H. L., 193
Low, R. N., P223, P323, 373, P460
Lowe, E. E., P510
Lowe, W. B., P278
Loweth, J. W., P552
Lubs, H. A., 307
Lucas, F., 451
Lucas Textiles Ltd., P223
Lude, A., 114, 208
Ludewig, H., 21, 349
Ludwig, C., P510
Lufttechniache GmbH, P131, P320
Lumsden, A. J., P324
Lund, G. V., 196, 282
Lundegard, M. M., 214, 260
Lundgren, H. P., P455, P463
Lundgren, W. E., P179
Luniak, B., 95
Lustig, H. G., P375
Luttgen (W) KG, P83
Luttringhaus, H., 209
Lutz, C., 443
Luzet, V., 316, 475
Lyle, D. S., 399
Lyne, D. G., 261
Macaulay, J., P37, P222
Macaulay, N., 68, 345
McAuley, D. J., P135
McCabe, E. M., 127
McCann, J. J., 391
MacCarthy, R. W., 203
McCloskey, J. F., 266
McConnell, R. J., 79
McCrackin, F. L., 351, 444, 524
McCrae, J., P549
McCreary, J., 71
McCutcheon, J. W., 450, 501, 546
McDaniel, H. F., Sr., P277
McDermott, H. J., P510
Macdonald, K. W., P372
Macdonald, W., P220
McDonough, J. J., P375
McDowell, R. H., 433
McFarlane, R. A., 108
McGarth, J. C., 202
McGaughney, O., P177
McGilvray, D. I., 364
McGrath, J. C., 202
McGraw, V. G., P222
MacHattie, L. E., 202
McIntyre, D. B., P417
MacIntyre, J. A., P509
McIntyre, R., 164
MacIsaac, J. T., Jr., P425, P464
MacIver, A., P37, P83
Mack, C., 444, 521
Mackay, J., P181
Mackay, L. H., P181
Mackay, M. J., P276
Mackay (Hugh) & Co. Ltd., P181
Mackechnie, H. K., P325
McKee, M. N. 345
McKenna, R. E., P129
Mackereth, I., 238
Mackie, J. P., P86, P82, P370
Mackie (James) & Sons Ltd., P36, P82, P370
Macknight & Hoffman, Inc., P138
McLaren, K., 126
MacLean, E. B., P455
McLean, H. T., 452, P510
McLendon, V. I., 244
McMillan, O. J., Jr., P42, 124
Macmillian, W. G., 260
McQuade, A. J., 534
Mader, E., 543
Madge, E. W., P424
Magee, E., 247
Magee Carpet Co., P325, P509
Mahl, H., 29, 170
Maier, E., 528
Maier, H., 104, 197, 335, 476
Maifoss Ltd., P229
Maillard, F., 493
Majury, T. G., 18
Malcolm, B. R., 213
Malik, J. P., P228
Malmstorm, H. E., 309
Manchester, F., 306
Manchester Metal Works Ltd., P82, P83, P508
Mandou, J., 123
Manhattan Shirt Co., P458
Mann, H. B., 252, P379
Manning, G., P230
Manogue, B., 46
Mansell, L. H., P510
Manudhane, R. G., 205
March, A. P., 408
Marchi, F., 254
Marchington (T. E.) & Co. Ltd., P91
Marcou, L., 172
Mardles, E. W. J., 273
Marguier, S., 433
Marin, J. P., P177
Markowicz, M., P36, P81
Marlette, G. R., P375
Marling & Evans Ltd., P36
Marotta, R., P182
Marquette Metal Products Co., P321, P455
Mars, P. A., 295
Marsaudon, A., 484
Marsden, H., 197
Marsh, J. T., P136, P182, P557, P558
Marsh, P. B., 327, 427
Martin, C. S., P225
Martin, E., P557
Martin, W. H., 109
Martin, W. J., 383
Martinek, J., 13
Martyn, H. L., P175
Marvin, A., P319, P369
Marvin, D. N., 481, 537
Masich, E. J., P37
Masland (C. H.) & Sons, P181, P225, P323, P325, P421, P423, P461, P462, P554
Mason, A. C. F., 262
Masson, B., P225
Mather, E. A., 51
Mather & Platt Ltd., P91
Mathis, M., 473
Matlin, N. A., 485
Matsumoto, I., 311
Matsumoto, Y., 99, 239
Matsuoka, K., 272
Matsuzaki, K., 270
Matthew, J. A., P222
Matthews, L. A., P225
Matthews, R. M., P461
Matthews, R. R., P136, P554
Matuschek, E., 19
Matuschek, T., 335
Maurer (A.) Soc. Anon., P505
Mautner, H. R., P43
Mauvisseau, P., 539
Mavlankar, S. A., 314, 353
Mayer, M., Jr., 284
Mayner, T. S., P219
Maynor, B. J., P554
Maytum, A. H., P175
Mazingue, G., 25, 290
Mazzeno, L. W., Jr., 270
Meadows, E. D., P84
Meadows Mfg. Co., P84
Meals, W. S., P182, P378
Mecco, J. M., 254
Mecklenburgh, G. K., P43
Mee, S. N. S., P87
Mehnert, W. V., P225
Mehta, P. C., 302
Meienhofer, J., 502
Meier, J., 357
Meier-Windhorst, A., 410
Meijberg, J. C., 103, 386, 523
Meinhold, H., 314
Meissner, O., 414, 540
Meissner, R., P184
Meitner, W., P137
Melbin, B. F., 344
Melchior, P., 528
Mellor Bromley & Co. Ltd., P40, P88, P138
Melograna, F. S., P87
Melton, J. E., P34
Mende, D., 60
Menter, J. W., 74
Mercer, E. H., 233
Mercer, F. B., P176
Mereness, H. A., 259
Merlin, C., 56, 336
Merrill, G. R., 284, 286
Merriman Brothers, Inc., P551
Mersereau, E. P., 450
Mersereau, H. C., 5, 47
Metall und Rohstoff AG, P181
Metallgesellschaft AG, P321
Meters Ltd., P179
Metropolitan-Vickers Electrical Co. Ltd., P221
Metzger, E., 490
Meybeck, J., 217
Meyer, C. F., P324
Meyer, E., 241, 313
Meyer, M., 297
Meyer, S., 20
Meyer, W., 472
Meyers, A., P219
Meyrick, T. J., P228
Meytre, P. A., P422
Mezzera Soc. per Azioni, 63
Michelen, E., 475
Michie, A. G. H., P137
Mick, W., P130
Middlebrook, W., 12
Mieskis, K. W., 163
Mihara, M., 528
Mihira, K., 103
Mikhelev, A. I., 301
Miles (H. G.), Ltd., P374
Millard, F., 213
Miller, C. F., P88
Miller, J., 203
Miller, J. G., 26
Miller, L. P., P422
Miller, M. E., 246
Miller, P., P37, P41
Miller, W. B., 71
Millson, H. E., 157, 355, P560
Milne, T., 105, 198, 396
Minges, S., 344
Minton, C. W., P422
Mitchell, H., 416
Mitchell, J. A. B., 9, 52, 100, 146, 237, 393, 521
Mitra, M. K., 513
Miura, Y., 264
Mizukaga, K., 235
Moamoun Bayoumi, A. L., 108
Moberg, I. O., P225
Mobley, L. A., 327
Moesmer, V., 500, 542
Mohawk Carpet Mills, Inc., P134, P135, P277
Mojud Co., Inc., P422
Momany, D. M., 246
Monahan, H. J., 70
Moncrieff, R. W., 386, 429, 485, 515
Monego, C. J., 497
Monfort, F., 195
Monsanto Chemical Co., P42, P85, P90, P136, P137, P182, P462, P553
Monsanto Chemicals Ltd., P424, P559
Montgomery, D. J., 273, 386
Moon, C. G., P224, P554
Mooradian, S., P560
Moore, A. T., 512
Moore, D. P., P40, P375
Moore, H., 152
Moore, H. B., 411
Moore, J. V., P509
Moore Fabrics, Inc., P509
Moos, G. E., P90
Moote, I., 532
Morahan, J. M., 54
Moran, J. M., P325
Morawek, W. P507
Morgan, C. L., P421
Morgan Crucible Co. Ltd., P417, P506, P551
Morodovski, M. S., 294
Morrill, F. B., P138, P377, P378
Morris, J. L., P462
Morris, M. A., 247, 480
Morris, M. F., 109
Morris, M. G., 65
Morris, W. J., 122, 414
Morton, D. H., 93
Morton, T. H., 5, 495
Morton, W. E., 22, 517, 524
Mosley, J. F., P420
Moss, C. W., P461
Moss, M. S., 46
Mosse, P., 205, 249
Mossmer, V., 77, 107
Mougeot, P., 487
Mount Hope Machinery Co., P425
Moxley, M. F., P460
Muchow, H., 397
Muckle, M. A. J., 167
Mueller, L., Jr., 317
Muller, F. H., P182
Muller, K., 98
Munster Simms & Co. Ltd., P276, P322
Murakami, T., 265
Murphey, W., P44
Murphy, A. L., 110, 153
Murphy, W., 197
Murray, E. A., 155
Murray, R., P181
Murray, R. L., 317

AUTHOR INDEX

Muschamp, H. L., P131, P132
Mutual Mills Ltd., P320
Nabar, G. M., 409
Nadeau, E., P223
Nadel, J., 146
Naegeli, W., P35
Nagai, M., 273
Nagar, P. S., 187, 233, 283, 387, 465, 511
Naismith, W. E. F., 282
Nakajima, K., 272
Nanjundayya, C., 384, 466
Nash, J. P., 309
Nash, T. L., P559
Nashua Corp., P173 P371
Nathan, V. S., 204
National Cotton Council, 231
National Research Corp., P371
Naumkeag Steam Cotton Co., P85
Navarro, F. A., P221, P417
Naylor, H., 538
Nazarov, A. I., 331
Neely, G. W., P554
Neff, R. J., 203
Neill (James) & Company, P374
Nelson, M. L., 340
Nelson, N. O. G., P460
Nery, J., 57
Ness, I. S., P89, P226, P227
Netelenbos, W. J., P36
Neu, K. H., P320
Neuendorf, K. F., 48, 66
Neumann, R., 236
Neumunstersche Maschinen- und Apparatebau GmbH, P224, P457
Nevell, T. P., 451
Neville, R. B., 532
New, H. E., P551
New York Wire Cloth Co., P180
Newcomb, W. J., P278
Newlands, G. P. F., P220, P221
Newman, J. A., P136
Newman, M., 153
Newsome, O., 253
Newton, H. E., 435
Nicholls, C. H., 363, 384, 385
Nichols, E. C., P554
Nichols, S. E., P84
Nickerson, R. F., P137
Nicolau, L. L., P41, P424
Niederhauser, J. P., 253, 487
Niepraschk, K., 66
Niitsu, Y., 235
Niles, G. E., P90
Nimmons, F. L., P132
Nims, P. A., P180
Nissan, A. H., 500
Nistico, F., P44
Nitschke, G., 8, 52, 405, 542
Nivel, P., 14
Niven, W. W., Jr., 362
Noble, P. G., 187, P227
Noe, H. C., P40, P134, P135
Noguera, J., P35, P174, P506
Norman, D. P., P509
Normand, W. T., P43
North (James) & Sons Ltd., P508
Northup, H. J., 358
Nottebohm, C. L., P89, P510
Novotny, R. J., P560
Nuding, H., 287
Nuessle, A. C., 111, 485
Nutter, F. E., P371
O-M Spinning Machine Co., 289
Oberdorfer, F., P180
Oberholtzer, A. L., P556
Obukh, I. G., 334
O'Dell, P., 5
Odom, M. W., P421
O'Donnell, I. J., 514
Oelhafen-Hirzel, H., P34
Officine Galileo Societa per Azioni, P134
Officine Meccaniche Cigardi Soc. Anon., P220
Officine Meccaniche Ferroviarie Pistoiesi Gia San Giorgio., P455
Ogawa, T., 237
Ogawa, Y., 430
Oglesby, S., Jr., P369
Okajima, S., 264, 297, 339
Okamoto, M., 436
O'Keefe, W., 491
Oliver, P. H., 93
Olofsson, B., 511
Olpin, H. C., P137
Onderstal, J., 123, 412
Onderzoekingsinstituut Research N. V., P463, P509
Onions, W. J., 122, 414
Orchard-Lisle, U. L., P560
Ordnance Gauge Co., P226
Origin Rapp SpA, P224
Ormerod, A., 26, 356, 433
Orr, R. S., 411
Orr Felt & Blanket Co., P557
Osawa, G., 123
Osbaldeston, J., P39, P81
Osinova, T. M., 301
Osmond, A. H., P378
Oster, G., 252
Ostertag, H., 172
Oswald, F., P132
Otger, M., P36
Ott, A., 197
Ott, D. J., 448
Ottinger, A. F., P423
Otto, W., 114, 117, 301
Outreman, P., 25
Owens, B., 246
Owens-Corning Fiberglas Corp., P176, P275, P277, P378, P458
Pacific Mills, P90, P129, P275, P509
Pacifico, C., 248
Pacsu, E., 364, 547
Padfield, D. G., 215
Padgett, E., 203
Painter, E. V., P181
Paitchel, H., 78
Pal, K. B., 482
Palen, V. W., 213
Palmer, H. J., 440
Palmer, R. C., 363
Paramount Textile Machinery Co., P558
Parish, G. J., 491
Parisot, A., 93, 216
Park, A. L., P85
Parker, J. P., 393
Parker, R. E., 13
Parkin, W., 236
Parkinson (Edward) Mfg. Co., P380
Parkland Mfg. Co. P322
Parks, W. G., 501
Parks & Woolson Machine Corp., P91, P278, P464
Parks-Cramer Co., P39
Parmeko Ltd., P87
Parry, E. G., P228
Pascoe, M. W., 139, 272
Pasqua, B., P378
Patt, P. N., P324
Pattram, A., P86
Pauen, W., P220
Paul, H., P42, P219
Paulus, R., P369
Payne, J., P559
Payne, N., P181
Pearson, A. J., P277
Pearson, E., P174, P176
Pearson, N. L., 141, 383
Peart, J. N., 47
Peck, H. E., P40
Pegg (Samuel) & Son Ltd., P559
Peirce, F. T., 189
Pellon Corp., P510
Pelz, W., 329, 466
Perfogit Societa per Azioni, P417
Perry, W. L., P37
Perti, B. L., 349
Peryman, R. V., 364
Peter, A., 158
Peter, M., 488
Peters, C. D., P81
Peters, H. W., P43, P228
Peters, L., 27, 271, 307
Peters, P. N., P134, P375
Peters, R. H., 306, 490
Peters, W. H., 261
Petersen, S. A., P33
Petersen, W., 285, 388
Peterson, B. A., P84
Peterson, G. N., P421
Peterson, L. E., 121, 271, P371
Petrarca, A. E., 501
Petterson, D. R., P226, P227
Petzold, H., 11, 77, 291, 480
Peuto, R., P34
Pfarrwaller, E., P38, P134, P179, P460
Pfenningsberg (J) & Co., 53
Pfister Chemical Works, 304
Phansalkar, A. K., 501
Philip, R. W., 172
Phillip, F., P86
Phillips, J. E., P426
Phillips, J. K., P376
Phillips, R. H., 251
Phrix-Werke AG, P89, P91, P558
Picanol, J., P133, P224, P225, P459, P554
Piccard, J. A., P463
Pieper, E., 303, 341, 402
Piepmeyer, J. A., P42
Pierce, R. E., P423
Pierron, A., 527
Piltz, E., P324, P375
Pimblett, A., 312
Pinault, R. W., 204, 211, 408, 489
Pinte, C. J. H., 251, 381, 401, 428
Pioneer Heddle & Reed Co., P276
Piper, F. R., P372
Piperoux, R. P., P507
Piskur, M. M., 449
Pistorius, W., 490
Pitochelli, A. R., 501
Pittman, C. E., P81
Pitts, J. K., P374
Plansoen, L. M., P277
Platt, M. M., 529
Platt Brothers & Co. Ltd., P460
Platts, C. M., P184
Plummer, J. H., P226
Pluria Aktiebolaget, P425
Plutte, A., P459
Pneumafil Corp., P220, 392
Pole, A. S., P138, P559
Pollard (Walter) Ltd., P86
Pollet, A. G., P319
Polley, R. W., P173
Polychemical Dvelopments Ltd., P135
Pomfret, N. H., 6, 330, 519
Poole, L., P324
Poore, L., 452
Poovey, P. D., P175
Porsche, G., 97
Porter, A. W., 310
Porter, A. W. H., P372
Porter, I. S., P421
Post, W. R., P88
Potter, H., P230, 248
Potter, H. L., 302
Potter, J. A., 212
Power, B. K., 185, 231, 511
Powers, D. H., P553
Powischill, J. W., 290
Praeger, S. S., 259
Prayag, R. S., 310
Precision Gear & Machine Co., P421
Precision Knitting Machine Co., 58
Prescott, L. A., Jr., P420
Press, J. J., 59 496
Pressley, R. B., 199, 292, 528
Preston, C., P229
Preston, J. M., 467, 516
Preston, R., P137, 345
Prince-Smith & Stells Ltd., 8, 235, P370, P418, P455, P550
Prindle, K. E., P419, P425
Pringle, A. V., 53, 101, 194, 392
Prins, J., 122, 261, 414
Probeta, G. E., P38
Proctor & Schwartz, Inc., 10, P136, 247, 248, P456
Prototypa Nar. Pod, P178, P322, P553
Prusa, E., 338
Pujol, C., 353
Pullman, J. C., P275, P277
Punnoose, T. V., 3
Purdue Research Foundation, P510
Puritan Cordage Mills, Inc., P464
Purrington, R., P87
Purves, T. R., P560
Pusateri, F. J., P134
Quaas, K., 145, 517
Qualitex-Societe Dunod & Cie, P85, P223, P224, P322, P374
Quehl, K., 16, 445
Quinn, J. L., P423
Quintelier, G., 147, 432
Quinton, D. R., 100
Quoos, K., P326
Rab, J., 14, 150, 242, 245, 295
Race, E., P88
Radcliffe, J. W., 284
Rader, H. L., 161
Radhakrishnan, S., 22
Radin, J., P375
Raes, G., 94, 121, 215, 538
Ragan, R., P36, P221
Rainey, W. T., Jr., 299
Ramaszeder, K., 196, 291, 526
Rankin, M. C., 246
Ranson, R., 309
Rao, N. S., 231
Rape, P., 312
Raper, G. F., P81, 547
Rapp, A., P91
Rath, H., 157, 441
Rathert, H., 328, 386
Rau, J., 157
Rau, M., 305
Rawson (J) & Sons Ltd., P85, P373
Rawstron, G. O., P131
Raybin, J. E., 242
Read, A. E., P378
Reason, R. E., P131
Rebenfeld, L., 364, 547
Redman, F. R., P42, P136, P461
Redman Process International Inc., P42
Rees, W. H., 28
Reeves, R. E., 270
Reeves, W., 303
Reeves, W. A., 124
Reggiani Meccanotex S.p.A., P380
Reichman, C., 242
Reid, J. D., 109, 112, 205, 269, 342, P559
Reiner (Robert) Inc., P222, P556
Reiners (Walter), P81, P132, P372, P373, P459, P507
Reinfeld, N., 314
Reinhardt, O., 100, 521
Reinhardt, R. M., 205, 269, P559
Reinicke, A., 197
Reith, J. E., 536
Reliance Electric & Engineering Co., P458
Remington, W. R., 440
Rendall, P. S., P550
Rennie, J. A., P554
Rensonnet, J., 195
Resnikoff, G. J., 348
Reumuth, H., 496
Reuter, E., 468
Reuther, H., 207
Revell, C. W., P173
Revesz, G., 412
Reymes-Cole, B. T. R., P226
Reymes-Cole, D. N. R., P226
Reymes-Cole, J. M. R., P226
Reynolds, R. J. W., 329
Reynolds, W. G., P457
Rheda, H., 108
Rhodes, R. P., Jr., P462
Rhodes, W. K., 299
Rice, W. A., P135

AUTHOR INDEX

Richards, H. R., 502
Richards, J. A., P371
Richards, N., 74
Richardson, F. F., P222
Richardson, F. S., 304
Richardson, H. H., 393
Richardson Co., P554
Richie, T. L., P173
Richter, C., 159
Richter, H., P558
Rickert, F. D., P88
Ridder, A., 518
Ridenour, G. M., 450
Ridge, B. P., 340
Riding, H., P180
Ridley, W. H., 448
Riedel, R., 69
Riesnert, W., 397
Rieter (J. J.) & Cie AG, P34, 35, P81, P82, P175, P456
Rigby, B. J., 327
Riggs, & Lombard, Inc., P510
Riley, A. V., Jr., P41
Riley, C. P., 533
Ringie, D. F., P173
Rivetti, S., P326
Roake, P., 548
Roane, S. A., 11
Robbenhaar, J. G. P36
Robbins, C., II, P423
Roberts, G., 293
Roberts, H. F., P134
Roberts, I. S., P41, P84
Roberts, R. H., P182
Roberts, S. B., P419
Robertshaw, F., 188
Robertson, A., P372
Robinet, M., 260
Robinson, A. T. C., 241, 294, 396
Robinson, C. E., 55
Robinson, E., P89
Robinson, E. B., P370
Robinson, F. C., P44
Robinson, J., P508
Robinson & Sons Ltd., P319
Rochas, P., 251, 381, 401, 428
Roder, H. L., 260
Roe, E. M. F., 258
Roehrich, O., 493
Roesler, R., 118
Rogers, G. E., 186, P557
Rogers, L. B., 216
Rogers, L. M., P555
Rogner, E., P320
Rohm & Haas Co., P510
Rohs, J. F., P422
Rohs, W., 150, 199, 295, 397
Rollins, M. L., 512
Romer, M., 537
Roosevelt Mills, Inc., P181
Rosano, H. L., 170
Rosch, M., 29, 171
Rose, G. R. F., 484
Rose, W. G., P455
Roseberry, E. D., 214
Rosenkranz, C. G., P459
Rosenstein, A. J., P458
Rosenstein, N., P458
Roseveare, W. E., 452
Ross, H. F., P182
Ross, H. J., P424
Ross, J., 269
Ross, S. D., 349
Rossak, J. A., P555
Rossin, E. H., P42, P85
Rotta, W., 250, 496, 534
Rotter, H., 394
Roughsedge, R. H., P221, P375, P419
Roulements a Billes Miniatures Soc. anon., P507
Rouse, J. T., 161
Roviro, J. V., P505
Rowe, F. E., Jr., P130
Rowe, M. H., 302
Roy, A. P., 308, 488
Rozieres, J. A. L., P419
Rudnick, E. S., 316
Rudo, S. I., 317, 454
Rudolf, W., 111
Rudolph, L., 48, 524
Ruf, F., 542
Ruff, A. J., P83
Ruhf, H. C., P463
Rulon-Miller, R., P457
Rumsey, J. S., 340
Runton, L. A., P41, P89
Rusca, R. A., 201, 296, P369
Rusch, G. O. K., P87, P553
Russell, W. S., Jr., P131
Russell-Lacey Mfg. Co., P41, P226
Rust, J. B., P43
Rutherford, H. A., 171, 327
Ruti Maschinenfabrik, 526
Ruvkun, S., 78
Rydboholms Akt., P44, P138
Ryder, J. C., P138
Ryder, M. L., 47, 514
SKF Kugellagerfabriken, P320
Sabee, R. N., P509
Sacchini, C. R., P455
Saco-Lowell Shops, P85, P445
Sadykova, F. K., 140
Sagar, H., 489
Sagehomme, G. E. M., P418
Saha, A. N., 442
Saha, P. K., 513
Sahm, G., 392
Sailer, L., P37
Sailer (Josef) Maschinenfabrik, P37, 149
Saint Freres Soc. Anon., P86, P177, P223, P420
St. John's Textile Mills Ltd., P35
St. Pierre, E., P324, P555, P556
Sakai, T., 528
Sakamoto, K., P508
Saladin, J. P., 55
Salvador, L., 27
Salvin, V. S., 66, 446
Samcoe Holding Corp., P136
Sanders, C. H., P554
Sanders, G., 529
Sanderson, K. E., P276
Sandoz Ltd., P42, P425
Sands, J. E., 210, 279
Sanson Hosiery Mills, Inc., P422
Sanuki, H., 196
Saret, J. M., P131
Sarkar, P. B., 512
Satlow, G., 541
Sattler, E. 6, 389
Saunders, A. P., P555
Saurer (Adolphe) Soc. Anon., P223, P276, P420, P422
Saville, A. K., 158
Savur, G. R., 335, 475
Sawyer, C. N., 499
Scalera, M., P182
Scarborough, F., P88, P135
Schachenmayr, Mann & Cie, P173
Schachoff, D., 12
Schafer, E., P418
Schaffer, B., 285
Schaffer, R., 271
Schallebaum, G., 77
Scharer Maschinenfabrik, P177
Scharroba, W., 483
Schaum, F., P458
Scheel, E., 208
Scheller, C., P226, P324
Scheller, K., P379
Scherer, P. C., 168
Scheurich, G., 496
Schickhardt, O., 495
Schiefer, H. F., 351, 444, 524
Schiess AG, P35, P36, P82, P83, P457, P550, P551
Schlafhorst (W) and Co., 55
Schlegler, J., 4
Schleifer, C., P370
Schlese, G., 194, 285, 330, 389, 517
Schlien, K., 101
Schlumberger, R., P34
Schmidt, A. W., P230
Schmidt, F., 58
Schmink, H., 402
Schmoller, F. V., 101
Schneid, A. F., 169
Schneider, C., 207
Schneider, J., 55, 105, 291, 397, 477
Schneider, R., 217
Schneider, W. H., 76
Schnupp, W., 474
Schoefer, E. A., 116
Schofield, F. B., P323
Scholler Brothers, Inc., P183
Schon, W., 305, 346
Schonefeld, H., 2, 71, 212
Schonemann, G., 526
Schreiber, W. T., 262
Schreiner, G. A., P557
Schreus, T., 435
Schubert, C., 76
Schueler, G. B. E., P181
Schuerhoff, R. H., P87
Schuhbauer, F., P323
Schulenburg, W., P424
Schulze, H., 106
Schumann, E., 24
Schumann, W., P462
Schuringa, G. L., 64
Schutz, R., 433
Schuyten, H. A., 342, 535
Schwanda, T. F., P40
Schwartz, I., 338
Schwartz, M. L., 474
Schwartz, R. E., P89
Schwartz, S. M., P41, P463
Schweiter Ltd., 522
Schweiter Maschinenfabrik AG, P176, P372
Schwenker, R. F., Jr., 141
Schwenningen (Textilmaschinenfabrik) GmbH, P322, P323
Schwerdtner, H., 354
Schwertassek, K., 386
Scott, M. J., P136
Scott, & Williams, Inc., P40, P88, P324, P375, P555, P556
Scragg, E. R., P371
Scragg, F., P417, P418
Scragg (Ernest) & Sons Ltd., P36, P82, P84, P131, P371
Scragg (Sydney & E.) Ltd., P417, P418
Seaman, E. M., P277
Segal, L., 21, 340, 365
Seiler, F., P555
Selby, N., P322
Selling, H. J., 124
Seltzer, I., P229
Sen, K. R., 45, 46, 102, 466, 513
Sen Gupta, A. B., 260
Seney, J. S., P184
Senior, J. H., 196
Sepavich, V. F., P180, P460
Seuchter, P., 99
Sevostyanov, A. G., 288
Seydel, P., 10
Shane, N. C., 112, 439
Sharaf, H. S., 482
Sharma, D. R., 210, 406
Shattuck, E. H., P89
Shaw, J. L., P44
Shaw, J. T. B., 451
Shaw, S., P43
Shaw, T. M., 537
Shaw, W., P455
Shell Development Co., P229
Shepard, R. W., P88
Shepardson, W. P., 203
Shepherd, W., 316, 329, 513
Sherman, S. H., 286, 318
Shertz, E. W., P324
Sherwood, N. H., 64, 249
Shields, W. H., P42
Shimotsuma, Y., 472
Shinn, W. E., 58, 201
Shirakashi, K., 236
Shishanov, V. L., 104
Short, C. R., P33, P505
Short, G. E., P33
Shorter, S. A., 234
Shortland, A., P40, P88
Siebert, F., 9
Siegel, W., 445, P556
Siemens-Schuckertwerke AG, P36
Sigman, N. D., P419
Sikorski, J., 502
Silken, W., 337
Silverman, L., 243
Silverwood, J. A., P320
Sim, J., P179
Sim, W., P179
Simmonds, D. H., 63
Simon, E., 191
Simon, J. P., 200, 263
Simon, S. A., 141, P463
Simpson, E. B., 159
Simpson, G. H., P425
Singleton, F., P34, P173, P319
Singleton, R. W., 187
Sinquefield, C. A., P222
Sippel, A., 80, 96, 124, 543
Sirmay, J., P226
Sisley, J. P., 28, 265
Skelly, J. K., 205
Skertchly, A., 385
Slade, I. M., 296
Slater, F. P., 281
Slayter, G., P275
Slen, S. R., 232
Smallhorst, D. F., 358
Smart, A. H., P39
Smart, E. J. L., 521
Smiley, H. J., P135, P461
Smith, A. J., P557
Smith, A. L., P505
Smith, A. R., 534
Smith, B., P180
Smith, D. H., P132
Smith, H. O., 153
Smith, J. C., 351, 444, 524
Smith, J. K., P458
Smith, P. N., P132
Smith, S. G., 451
Smith, S. T., 195
Smith, T. E., Jr., P276
Smith, W. W., P420
Snell, N. S., 232
Snowden, D. C., 15, 60, 107, 108, 151, 202, 245, 296, 339, 399, 435, 480, 528, 529
Snowden, F., P417
Snyder, D. W., 358
Snyder, J. L., 513
Sobue, H., 270
Societe d'Applications Generale d'Electricite & de Mecanique, P225
Societe de Montage pour l'Industrie Mecanique, P554
Societe des Fabrications Unicum, P551
Societe des Mecaniques Verdol, P133, P508
Societe pour le Traitement et l'Amelioration des Tissus, P228
Societe Rhodiaceta, P85, P137
Societe Rhovyl, 96
Society of Dyers and Colourists, 415
Society Palladium., P462
Sofio, E. G., P319
Somers, J. A., 142, 187, 362, 515, 516
Somonier, L., 199
Sondhelm, W. S., 26
Sonoco Products Co., P176
Sookne, A. M., 338, 399
Sorez, E. J., P319
Soussloff, D. G., P458
Soutar, T. H., 492
Souther, R. H., 360
Southern Research Inst., P369
Southern States Equipment Corp., P506
Southern Textile Machinery Co., Inc., P556
Speakman, J. B., 363, 384, 385, 466, 502
Specialties Development Corp., P182, P419, P458
Spence, E. I., P371
Spencer, H. C., 397, 435
Spencer, J. D., 188
Spencer-Smith, J. L., P222
Spengler, H., P85
Spicer, G. W., 157

AUTHOR INDEX

Spicer, N., 382, 511
Spielrein, R. E., 329, 453
Spindel-, Mortoren- und Maschinenfabrik AG, P457
Spinnbau GmbH, P131
Spinnfaser AG, P33
Spooner, W. W., 342
Sprague, B. S., P44
Sprenkmann, W., 171, 340
Springer, A., 413
Springs Cotton Mills, P506
Sprute, J. F., P222
Spurr, W. G., P374
Squarenina, L., P376
Srinagabhushana, 21
Stafford, N., 304
Stafford, W., 358
Stahl, F., 27
Stahle, C. R., P555
Stahlecker, W., 191, 287, 518
Stahlecker (W) GmbH, P82
Stalder, O., P551
Stam, P. B., 250
Stamm, G., 66
Stammwitz, E., P81, P83
Standard Hosiery Mills, P40, P553
Standfast Dyers & Printers Ltd., P43, P229
Stanley, L. N., P229
Stanley, R. W., P278
Stansbury, M. F., 483
Stansfield (John) & Son Ltd., P85, P86
Starkie, D., 529, 548
Starkie, J., 105, 150, 199, 240, 293, 337, 398, 435, 527
Staubli, H. H., P224, P225
Staubli (Gebruder) & Co., P39, P177, P224, P225
Stawitz, J., 545
Stead, M., P379
Steckel, E. A., P378
Steel Heddle Mfg. Co., P87, P323, P555
Steele, C. A., P458
Steele, R., 364
Steffens, W., 312, 349
Stegmeyer, L., 400
Steidl, R., 439
Stein, H., 150, 199, 295, 353, 357, 397, 470, 519
Steiner, F. G., 211
Stern, F., 94, 384
Stern, H., 440, 535
Stevens (J. P.) & Co., P37
Stevenson (Dyers) Ltd., P136, P558
Stewart, W., 128
Stibbe, E. V., P180
Stibbe, G. D., P88
Stibbe (G) & Co. Ltd., P88, P180
Stickley, H., 511
Stienen, E. A., P183
Stingl, G., 411
Stokes, S. C., 534
Stoll, R. G., 14, P184, 386
Stone, F. O., 156, 211, 254
Stone, W. K., 351
Stossimmel, H., 159
Stout, H. E., P326, P556
Stout, H. P., 94
Stover, C. G., P84
Strang, P. M., 7, P369
Strattner, T., P425
Strecker, F., 531
Streeton, B. E., P557
Streicher, P., 254
Strock, R. W., P90
Strother, F. P., P138, P230
Struch, B., 101
Stuart, L. S., 274
Stufflet, W. S., P226
Stultz, R. L., 516
Stupel, H., 404
Sturm, B., 193
Sucal Ltd., 159
Sucher, A., 292
Suchet, M., 545
Suchke, F. M., P276
Suchy, C. T., P135
Sucker (Gebr.) GmbH, P326
Sullivan, D. J., P463
Sullivan, R. D., P229
Sulser, H., 495
Sulzer Freres P38, P85, P86, P134, P179, P219 P460, P505, P508
Sumkin, V. A., 477
Summers, R. J., P81, P130, P319
Summers-Smith, D., 272
Sumner, H. H., 306
Supreme Knitting Machine Co., Inc., P375
Surratt, J. H., P462
Susemihl, R., P422
Susich, G., 522
Sutcliffe, A., P323, P460
Sutcliffe, J. H., 544
Sutcliffe, L. A., P374
Suttenfield, F. T., P425
Sutton, B., P228
Sutton, G. D., P91, 212
Sutton, L. S., P320
Suzuki, I., 196
Suzuki, M., 260
Suzuki, S., 235
Svaty, V., P554
Svedova, J., 395
Svenska Flaktfabriken AB, P426, P464
Svenska Ventilations A.-B., P426
Swackhamer, R. H., P507
Swain, T., P86
Swan, L. D., P278, 298
Swanson, E. R., 392
Swanson, J. M., 4
Swanson, K. P., P221, P457
Swartz, A. W., P44
Swatek, W., 241
Swindells, G. M., P550
Swiss Knitting Co., P461
Swiss Standards Assoc., 163, 541
Szaloki, Z., P130
T. M. M. (Research) Ltd., P34, P36, P81, P130, P173, P319, P323, P369, P370, P418, P420, P456, P549, P551
Tabata, M., 103, 191, 519
Taber, R. F., P464
Tabor, D., 139, 272
Tabor, W. H., P417
Tager, M. E., P552
Takizawa, T., 192
Talley, J. F., P222
Tallis, E. E., P463
Tanaka, M., P324
Taral, A., 17, 112
Tata, R. V., P458
Tate, C., 244
Tatlock, L., P223
Tatlock Engineering Co., Ltd., 199, P223
Tattersfield, C. P., 303, 341, 402
Taufel, K., 387, 447
Tawde, G. P., 409
Taylor, B., P424
Taylor, D. S., 161, 288
Taylor, H. K., P177
Taylor, J. T., 265
Taylor, M. M., P38
Teichmann, L., 315
Teixeira, N. A., 529
Telares a Discos Egara Soc. Anon., P374
Telares Casals Duran Soc., Anon., P179
Templeton (James) & Co., Ltd., P554
Terhune, H. D., 302
Ternier, A., 50, 473
Terry, R., P39
Tesi, A. F., 207
Tetlow, H. V., 284
Textile & Chemical Research Co. Ltd., P457
Textile Engineering Corp., P456, P457
Textile Equipment Corp., P173
Textile Machine Works, P277, P324, P556
Textile Operating Executives of Georgia, 233, 525
Textile Trimming & Boarding Machine Co., P326, P556
Textima Spinnereimaschinenbau Chemnitz Veb., P418
Teyssier, Y., 428
Thatcher, H. W., P422
Theis, B., P138
Thibault, M., P225
Thieme, J. G., 94, 185, 384
Thoma, H., P84, P175, P321
Thomas, A. L., Jr., P369
Thomas, F. W., 257
Thomas, H. A., 16, 17
Thomas, I. H., P420, P553
Thomas, P. M., 2
Thomas, R., 368
Thomason, W. A., Jr., 168, 235, 362
Thompson, A. G., P557
Thompson, J., P82
Thompson, J. L., 234, 286
Thompson, R., P420
Thompson, W. M., P88
Thomsen, C. C., P178, P553
Thomson, G., 249
Thomson, R. H. K., 282
Thorndike, J. O., P459
Thorp, E., P559
Thorpe, C. H. M., P420
Thorpe, F. G., P417, P551
Thurston, P. L., P225, P324
Tierney, C. A., P135
Tilburgse Textieltechnici (Vereniging) V. T. T., 388
Timell, T. E., 513
Tippett, L. H. C., 166
Tipton, H., 194, 352
Titan, P321
Tittel, R., 206
Tittmann, E., 287
Tiwari, M. M., 477
Toenniessen, E., 100, P130, 390
Togel, E., 301
Tomlinsons (Rochdale) Ltd., P91, 257
Tonami, H., 438
Tootal Broadhurst Lee Co. Ltd., P136, P181, P182, P557, P558
Torke, E., P91
Tourtellot, J. A., P138
Tower Iron Works, P420
Towery, J. D. 185, 231, 511
Townend, P. P., 6, 50, 54, 97, 101, 190, 192, 237, 288, 289, 333, 430, 472, 522
Townsend, F. L., P84, P85
Townsend, S. F., P224
Townsend, M., 293
Townsend, M. W. H., 26
Toyoda Automatic Loom Works, 191
Toyoshima, I., 236
Traupel, R., 513
Trefethen, F. N., 266
Treiber, E., 445, 543
Tricot Somerset Inc., P219
Trifunovic, A., 104, 528
Trip-Lite Ltd., P225
Tripp, V. W., 512
Troy Blanket Mills, P372
Trubenised (Gt. Britain) Ltd, P557
Truitt, J. A., P277, P560
Trusler, R. B., P228
Truslow, N., 10, 53, 102, 148, 195, 282, 474, 523
Trutmann, K., 206, 404
Tschudi, J. J., 99
Tshemissov, N. I., 7
Tsujimoto, I., 260
Tucci, F., 203
Tufting Machinery Ltd., 393
Turl, L. H., 202
Turner, C., P38
Turner, D. G., P35
Turner, G. R., 203
Turner, H. A., 255, 306
Turner, J. W., P420
Turner, R., P419
Turner, R. G., P422
Turton, G., 241, 527
Turton, J. W., P86
Tuten, J. M., P277
Tweedales & Smalley Ltd., P36, 49, 50, P82, P83, P84, P130, P173, P175, 390, 391
Twitty, R. W., P173
Twomey, J. J., P506
Tyler, A. G., 67
Udupa, H. V. K., 302
Uematsu, T., 273
Ulrich, H. M., 343, 403
Ultrasonics, Ltd., 436
Umano, F., 436
United Merchants & Manufacturers Inc., P43, P138, P222
United Piece Dye Works, P560
U. S. Bobbin & Shuttle Co., P134, P554
U. S. Bur. Labor Statistics, 15
U. S. Government Patents Board, 32
U. S. Plush Mills, Inc., P509
United States Rubber Co., P90, P325, P506, P559
Universal Winding Co., P131, P221, P419, P458
Urano, Y., 237
Urban, P., P326
Urquhart Lindsay & Robertson Orchar Ltd., P508
Uster Corp., 23
VEB Fahrradwerk Elite Diamant VVB IFA, P225
VEB Textil Maschinenbau, 158
Vaccari, E., 94
Vadala, E. T., 522
Val Mehler Segeltuchweberei AG, P423
Valdon, A., 396
Valentin, C., P323
Valentin, R., P323
Valentin Patent Gesellschaft, P322
Valentine, L., 168, 363
Valota, A., 146
Valota, M., 194
van Bochove, C., 64
Van Burleigh, J. B., P86
Van Colle, V. G., P82, P85, P508
Van Dalfsen, J. W., 97, 525
van Issum, H., P325
Van Issum, J. B. H., P278
Van Kampen, G. R., 118
van Lamoen, F. L. J., 486
van Overbeke, M., 25
van Overbeke, N., 290
van Wijngaarden, J. K., 494, 540
van Wyk, C. M., 46
Vanity Fair Mills, Inc., P135, P461
Variapat AG, P42
Vauck, W., 341
Vaughan, G. W., Jr., P455
Veer, L. S., 413
Velcro S. A., P376, P508
Veldsman, D. P., 363
Vella, L., P370
Velveray Corp., P41, P463
Venter, J. J., 46
Vetter, C. H., 436
Vezina, J. A., P133
Vibradamp Corp., P89
Vickers, A. E. J., 120
Vickerstaff, T., 65, 67
Viehweger, A., P549
Vigliatura, L. E., Jr., P38
Villani, A., P276
Vincent, J. J., P133, P420
Visking Corp., P90
Visser, A., 128
Viswanathan, M., 356
Vitale, P. T., 269
Vitalis, E. A., P509
Vodonik, J. L., 465
Voegelin, F., P177
Vogel, E., 486
Vogel, R., 387, 447
Void, R. D., 501
Vollenbruck, H., 411
Vollenweider (Sam.) AG, 117
von Bergen, W., 157
Von Glahn, W. H., P229
von Grossmann, O., 518
von Prondzinsky, W., P320
Voong, E. T. L., 386

AUTHOR INDEX

Vos, J. G., 104
Voss, J., 62, 402
Vranckx-Deroover, R., P549
Wachsman, J., P134
Wagenknecht, H., 294
Waggoner, J. H., P378
Wagner, R., 469
Wahl, H., 116
Wainwright, A., P550
Wake, W. C., 341
Wakefield, H., P90
Wakeham, H., 270, 280, 382, 511, 512
Wakelin, J. H., 386
Walker, A. R., 534
Walker, H. D., P554
Walker, H. G., P38
Walker, N. A., P417
Walker, P. H., 75
Walker, R. A., 66, 446
Walker, R. Z., 289, 333, 431
Walker (Peter) Blackburn Ltd., P554
Wallace, J. G., P559
Waller, E., 151, 152
Walley, J. J., P376
Wallis, T. E., 347
Walls, I. M. S., 17, 114
Walmsley, L. L., 70, 399, P559
Walsh, E., Jr., P230
Walsh, F., P370, P456
Walter, J. G., P136
Walter, L., 19, 65, 119, 160, 416
Walton, E. H., P509
Walton, F. S., P86
Walton, J. R., P460
Walton, R., P86
Walton, R. R., P321
Walton (Thomas & John) Ltd., P86
Walz, R., 349, 538
Wang, J. P., 431
Ward, G. C., 66
Ward, G. R., 273
Ward, W. H., 232, 539
Wareham, J. F., 513
Warin (Gordon) Ltd., P178
Warner, S. W., P425
Warner & Swasey Co., P39
Warren, F. W., P180
Warzee, M., 147, 432
Watanabe, I., 267
Watanabe, S., 234
Waters, W. T., 214, 318, 444
Watson, C. M., 388
Watson, W. H., P130, 319, P418
Watts, G. E., P135
Wawzonek, J., P555, P556
Wayson, A. J., P551
Weatherburn, A. S., 365
Weaver, J. W., 109, 112, 342, 535
Webb, R. W., 382
Weber, A., 15
Weber, F., 68, 404, 439
Weber, R. E., Jr., 535
Webster, A., 53, 102, 195, 238, 334, 431
Webster, C. T., 445
Wegener, W., 8, 100, 162, 171, 258, 261, 286, 311, 332, 389, 429, 518, 540
Weick, A. C., P90
Weil, W., 118
Weinberg, C. E., P40
Weiser, B. L., 246
Weiss, L. C., 411
Welch, I. H., Jr., 207
Weldon, A. J., 59
Welling, M. S., 483
Welmar, S., P426
Wells, R. D., 290
Wendon, G. W., 308
Wentworth, O. C., P459
Werman, C. A., 480
Wernecke, M., 542
Wesp, E. F., 357
Wessel, C. J., 362
West Point Mfg. Co., P175, P230, P372
Westbrook, W. C., 13, 149, 240, 292, 476
Wheatley, E. W., P423
Whelan, M. E., 202
Whewell, C. S., 364
White, G. S. J., 169
White, H. J., Jr., 328, 366
White, J. T., P323
Whitehead, K. E., P35
Whitehead (H) & Co. Ltd., 144
Whitin Machine Works, P220, P275, P553
Whitmore, D. D., 521
Whittaker, A., P176
Whittaker, E., P92
Whitten, H. P., 525
Whitten, M. E., 412
Whittier, B. L., 314, 353
Whittingham, C., P39
Whitwell, J. C., 141, 233
Wickardt, K. W., P134, P462, P557
Wicker, D. B., P129
Wicklein, A., 387, 447
Wiele, M. V., P86
Wiendl, T., 389, 390
Wierks, P., 396
Wilcken, G., 543
Wilcox, H. R., P510
Wildbolz, R., P456
Wilde, E., 498
Wildman & Swartz, Inc., P44
Wildt & Co., Ltd., P555
Wildhelm, A., 472
Wilkie, L. O., P555
Wilkie, R. C., P129, P275
Wilkinson, F., P374
Wille, K., P230
Williams, A. E., P137, 232
Williams, L., 435
Williams, T. C., 234
Williams, W. A., 7
Williamson, J. S., P278
Willimot, S. G., 46
Willock, J., P42, 238, 290, 334
Willey Werner Lenkeit, P324, P375
Wilson, C. C., 314
Wilson, D., 534, P560
Wilson, H. A., P87
Wilson, I. V., P182
Wilson, J. P., P136
Wilson, W. R., 22
Wilson Brothers Bobbin Co. Ltd., P176
Wincor, W., 77, 107
Windle, J. J., 537
Winkler, F., 120, 162
Winslow, A. E., P37
Winter, C. W. R., P506
Winterburn, G. A., P369
Wintz, E. A., P419
Wirth (Arno) H., 19
Wirtschaft- und Verehrs-ministeriums, 239
Wisconsin Wire Works, P276
Wiskemann, F., P559
Witcombe, L., P319
Witmer, W. C., P375
Wittman, G., 16, 300
Witwer, D. B., 547
Witzel, K., 115
Wojatschek, K., 303, 305, 406
Wolfenden, P. H., P133
Womble, C. M., 246
Wood, C., 21
Wood, K. M., P222
Wood, P. J., 61
Wood, W. J., P35
Woodberry, N. T., P278
Woodcock, A. H., 481
Woodhead, J. A., 78
Woodhouse, T., 105, 198, 396
Woodruff, J. A., 16, 489
Woods, H. J., 502, 515, P552
Woods, J., P419
Woodson, W. S., Jr., P458
Woodworth, J. E., P378
Wool Industries Research Assoc., P137
Woolley, E., P321
Word, B. H., Jr., 109
Work, R. S., P324
Wormser, H. H., P221
Wright, J. M., 55
Wright, W. C., P35
Wrigley, W., P374
Wurz, A., 141, 407, 408
Yamaguchi, M., 236
Yarbrough, J. A., P276
Yasuda, T., 98
Yates, M., 122
Yeiser, A. S., P463
Yokota, H., 237
Yoshikawa, A., 235
Young, A. A., P184
Young, D. D., P508
Young, L. A., 359
Young, R. C., P369
Yu, L. T., 192, 237, 289, 333, 430, 472, 522
Zaat, J. C. A., 97, 525
Zagiel, L., 59
Zahn, H., 141, 493, 502
Zahn, W., 540
Zane, E. E., P422
Zeitel, J., 128
Zellweger AG Uster, P507
Zeruneith, R. E., P226
Zevakin, L. V., 292
Ziak, S. E., 525
Zieve, W. A., P40
Ziifle, H. M., 340
Zilahi, M., 198
Zillgitt, C., 246
Zimmerman, C. L., 254
Zinser Textilmaschinen GmbH, P550
Zisman, W. A., 5, 28
Zitscher, A., 67
Zobel, H., P418
Zuber, C., 172
Zwart, J. H., 499
Zweigle, K., 24
Zwingenberger, A., P135

SUBJECT INDEX

January–December, 1955

In using this index, look under specific subjects. If information wanted is not under specific subject, look under a broader heading. Wherever possible, look under specific *process*. For example, information on the dyeing of cotton will be under DYEING—cotton (*not* under COTTON—Dyeing). For fiber information not involving specific processes (as properties, etc.), look under the names of fibers. Use cross references and look also at other headings beginning with the same word. For many processes there will be separate headings for machinery, as DRAWING and DRAWING MACHINERY. P indicates a patent reference.

ABACA (see also *Bast fibers*)
chemical modification, 249
ABRASION: chemical changes in viscose after wear tests, 77
laboratory performance of 9 cotton fabrics, 246
multifilament and staple yarns on modified Walker abrader, 525
nitrile latices as a resistant size, 249
predicting fabric behavior in wear, 245
resistance of cotton and enzymic desizing, 113
silicic acid ester impregnation, P228
supertwist of nylon filament, 531
Swiss specification, 541
ABRASION TESTING: apparatus, P510, P560
comparison of Stoll and Frank-Hauser testers, 495
correlating with wear of resin-finished rayon fabrics, 495
Stat tester, 263
Swiss tester SVAH, 541
tests, 495
yarn tester for determining sizing quality, 24
ABSORBENCY, see *Water absorbency.*
ACETATE RAYON (see also *Celafibre*)
acetylation, 248
chemical structure and mechanical properties, 96
measurement of delustering of filament fabrics, 445
specialty acetate yarns, 238, 289, 334
ACRYLIC FIBERS (see also *Copolymer fibers, Dynel, Orlon*): data sheets: polyacrylonitrile fibers, 515
PAN and Dralon (German), 233
AIR CONDITIONING: P219, 498
ANALYSIS, see under specific subject as *Chemical testing, Fiber testing, Finishes,* etc.
ANNUAL REVIEWS: bleaching, scouring and heat-setting, 154
dyeing, 211
fats, oils, and detergents, 449
fiber literature, 465
finishes, 15
finishing developments, 61
instrumentation, 310
machinery developments, 267
man-made fiber polymer chemistry, 96
man-made fiber production, 142
man-made fibers: review and forecast, 515
manual of the textile industry of Canada, 1955 (book), 454
modern equipment and processing, 32, 61, 128, 547
new products, 32, 61
plastics, 80
sewage, waste treatment, and water pollution, 359
Textile Recorder book of the year, 1955, 454
textile research in 1954, 80
textiles in 1954, 80
ANTI-FELTING, see *Shrinkproofing.*
ANTISTATIC AGENTS (see also *Chemical aids to processing, Static electricity*): P41; antistatic action and molecular structure, 273
antistatic agents and application, 340
antistatic finish, P136
antistatic treatment, P509, P510
ANTISTATIC AGENTS (*Continued*)
development, 340
oil soluble cationic, P41
polymeric beta-propiolactone for wool, P463
test methods, 453
treatment of dielectric materials, P42
ZELEC, 31
APPLICATORS (see also *Chemical aids to processing*)
apparatus for oiling or moistening cotton lap, P34
ARDIL (see also *Protein fibers*)
chemistry and physics, 514
determination in Ardil-wool mixtures, 258
in the cotton industry, 187
ARNEL (see also *Cellulose triacetate*): 5, 47, 283, 386
identifying in fabric/fiber blends, 214
ASBESTOS: 3, 4; determination of cellulosic constituents, 213
in industry, 95
sprayed asbestos, 328
AUTOMATION: 416; applications of electronic instruments, 448
automatic control, 265
in hosiery finishing, 247
in the textile industry, 356, 504
AUXILIARIES, see *Textile chemicals.*
AZOTON (see also *Cotton, Chemically modified*)
effect of cotton bleaching, dyeing, printing and finishing operations, 61
BAGS: open-mesh ventilating bag for produce, P423
unsized woven fabric bags, P423
weaving of seamless bags, 57
BALING AND PACKING MACHINERY (See also *Cotton baling*)
making fiber packages, P275
BALLOONS: control, 50, 391
influence of friction and traveler weight in ring spinning, 521
measurements of characteristics, 521
measuring air drag, 236
problems of shape and tension, 520
restricting device, 50, P83, P220, 390
spinning system for increased production, 8
theoretical treatment: cap spinning, 145
BAST FIBERS (see also *Abaca, Coir, Cotton, Flax, Jute, Kapok, Kenaf, Ramie*): Bimli and Mesta fibers differentiated from jute, 513
review, 94
structure of fibrous plants, 384
BEAMING, see *Warping.*
BEAMS, see *Looms, Warping machinery.*
BIBLIOGRAPHIES (see also *Annual reviews* and under specific subjects)
carbonizing, 63
continuous dyeing, 343
methods of textile waste treatment, 218
BLANKETS: electric: temperature control, P325
tubular, P557
part wool: variability of wool content, 479
robe fringing machine, P372
technique of blanket weaving, 200
BLEACHING: acceleration by means of ozone, P558

BLEACHING (*Continued*)
alkali: effects, 62
alkaline after-treatment: hydrophilic effect in cotton, 481
Ardil, 405
continuous: measurement and control of concentration, 206
single-stage process, 302
sodium hypochlorite, 205
with silicate-free peroxide, 533
cotton of low grade: process for, P463
damage: copper and permanganate number in evaluation of, 315
history, 533
jute, 203; hydrogen peroxide, 482
linen yarn, 205
man-made fibers: sodium chlorite, 437
nylon: effect on fibers, 482
hypochlorite, P509
peroxygen, P559
open width: with sodium chlorite, 533
optical, P182, 437, 482
fluorescent agents, P136
photocolorimetric fabric analysis, 401
Uvitex U for Dacron, 533
oxacyanine salts, P326
permonosulfuric acid and its salts, P558
peroxide, 62, 249, 340, 482, 533, P559
polyacrylonitrile fibers, P559
protein fibers: peroxide, 249
recent developments, 203
review, 62; review of 1954, 154
review of methods, 301
sodium chlorite, 205, 301, P326, 437, P509, 533
alkali metal chlorite, P423
review, 249
vacuum method, P425
wool: atmospheric and other oxidation effects, 154
BLEACHING MACHINERY: continuous range for knit goods, 248
Degussa continuous chlorite system, 481
Dungler continuous sodium chlorite range, 156
Svetema pad-roll open-width, 481
BLENDING (see also *Blends, Opening*): 196
drawing frame blending, 331
man-made fibers: new technique, 517
man-made fibers with wool, 188
mill-made sandwich system, 388
pressed felt manufacture, 234
statistical tests of color blending on yarns and rovings, 414
theory, 468
wool: new blending and oiling process, 98
woolen industry: problems, 6
worsted grey mixtures: degree of blending in, 329
BLENDING MACHINERY (see also *Opening machinery*): P34, P173, P455, P505
feeders, 49
method and apparatus, P34
problems, 468
BLENDS (see also *Abrasion* and under specific processes)
Ardil/cellulosic fiber, 529
cotton and viscose on the cotton system, 516
Dacron-cotton, 340
fiber arrangement in yarn cross section, 524
ideal random blended yarn, 473
Orlon: properties of blends, 515
with rayon blends for outerwear, 400
rayon staple in uniform fabrics, 107
testing: Ardil in Ardil-wool mixtures, 258
Arnel in fabric/fiber blends, 214
asbestos-glass-organic, 541
cellulose acetate blends, 541
cellulosic constituents in asbestos and asbestos-glass, 213
comparative solubilities of fibers, 259
fibers blended with wool, 541
protein rayons in mixtures with wool, 442
viscoe-acetate ply herringbone, 60
wool: with cashmere, 107
wool substitute blended fabric, P136
worsted: blended worsted greys, 6, 54, 97
Enkalon/wool in worsted spinning, 516
140 worsted type fabrics, 59
Terylene/wool worsted-type fabrics, 529
BOBBINS (see also *Reels, Winding machinery*): P176
adaptor, P551
apparatus for finding the ends of threads, P373
card room bobbin, P84
condenser bobbins, P83
holder, P222, P417, P457
skewer, P177
spray painting, P320
stripping, P38, P372, P420
support, P37, P321
transfer mechanism, P84
yarn carriers—paper or wood?, 431
BONDING (see also *Laminated fabrics, Nonwoven fabrics, Yarns*)
method of bonding fabric to another surface, P182
BRAIDING: work study, 167
BRAIDING MACHINERY: 238, P507
bottom weight carrier, P222, P507
Fraser braider, 54
BUILDINGS, see *Mill buildings.*
BULK YARNS, see *Textured yarns.*
CALENDERING: influence of heat, pressure, moisture content, and starch content, 409
Simili mercerizing, 117
vinyl-coated fabrics, 113
CALENDERS: elastic theory of nip stresses and hysteresis effect, 309
friction-band, P91
guard, P184
measurement of pressure distribution between rollers, 491
Tube-Tex tensionless, 19
CARBONIZING: review of literature, 63
woolen piecegoods, 533
CARBOXYMETHYLCELLULOSE: interface behavior on cotton, 545
launderometric determination, 127
in the washing process, 404
CARDING (see also *Combing, Neps, Sliver, Uniformity*)
Centralograph: analysis and recording of stoppages, 388
discussion of questions, 233
fiber movement study, 6
historical survey, 285
history of wool carding, 468
improvement, 7
increasing rate of production, 389
jute, 235, 388
kapok, P549
load on the main roller of the roller and clearer card, 143
pressed felt manufacture, 286
production control, 468
rayon carpet staple, 330
relationship between speed of doffing comb and doffer, 7
theory, 7
waste reduction, 143, 234, 285, 286
wool, 190
wool: attachment for novelty yarn effects, 525
Autocount, 49
strength of yarns at varying rates, 238

CARDING (*Continued*)
work study, 190
CARDING MACHINERY (see also *Combing machinery, Sliver*): P130
card-grinder training, 49
clothing, 285
all-steel, 285
apparatus for grinding, P370
cleaner, P130
treatment process, P455
types and manufacture, 389
comb box, P81
control roll, 143
drives: belt, P219
individual, 7
mechanism, P549
dust extracting unit, 189
electric card scale pan mechanism, 98
feeders, P34, P174, 330, P456, P505
flat cards, P34
care, 143, 189, 517
varying flat speeds, 49
modifications for high production, 286
nipping depth of the fly roller, 191
precise adjustment means, P370
producing irregular yarns, P174
Schorsch-Mayer single-card system, 189, 284
setting, 285, 517
slotted deflector plate, 468
Spinnbau, type 500, 517
stripper: studies on automatic, 235
variable speed positive drive, P174
undercasings: mounting, P369
variable speed mechanism, P549
web dividers: new construction, 388
wire: factors affecting carding efficiency, 330
relation between angle and carding action, 235
systems of gauges, 388
wool, 284
large diameter finisher doffer, 388
CARPET LOOMS: Axminster loom: beat-up, P323
loop pile attachment, P323
modified, P460
Platt, 335
yarn brake, P224
yarn carriers, P554
cutting mechanism, P86
loop rug forming attachment for looms, P87
tufting machinery: British, 393
stop motion, P460
Wilson and Longbottom loom, 476
CARPETS (see also *Carpet looms*)
apparatus for making coated rug fillers, P369
Axminster: two-shot modified weave, P554
double-face weaving, 476, 528
how to card and spin carpet rayon, 516
pile, P181, P423
method of continuous seaming, P222
velvet pile, P181, P325, P461
weaving, P178, P461, P554
rug rolling machines, P227
service study of 12 cotton broadloom floor coverings, 106
shearing mechanism, P44
soiling: mechanism, measurement, and reduction, 450
tufted, 152
manufacturing, 435
tufted rayon: dyeing and finishing, 489
CELAFIBRE (see also *Acetate rayon*)
on the cotton system, 97
on the woolen and worsted systems, 97
processing, 283
CELLULOSE (see also under specific fibers and processes, *Deterioration of materials*)
CELLULOSE (*Continued*)
cotton: effect of kiering on crystallinity, 340
degree of polymerization: cellulose nitrate, 502
fibers: applications of thermodynamics to stretching, 452
entropy changes accompanying stretching in water, 270
formaldehyde reaction, 364
hydrocelluloses: reduction of aldehyde groups by sodium borohydride, 546
methylated celluloses, 270, 364, 547
milkweed: molecular properties, 513
morphological relations in fiber cells, 94
periodate oxycelluloses: oxidation of the aldehyde groups by chlorous acid, 451
reduction of the aldehyde groups by sodium borohydride, 451
treatment with aqueous sodium borohydride, 271
sheets: role of hydrogen bond in rheological behavior, 500
systems of preformed splitting areas, 2
temperature: effect on adsorption of iodine, 546
CELLULOSE TRIACETATE (see also *Arnel, Courpleta*): 429, 487
CHEESES, see *Winding*.
CHEMICAL AIDS TO PROCESSING (see also *Antistatic agents, Applicators, Detergents, Friction, Silicones, Sizing agents, Textile chemicals*)
antistatic treatment of staple fibers, P219
oiling cotton waste by the spray method, 517
oxidizable oil-containing on rayon: chemical methods of analysis, 447
effect, 387
problems and properties, 98
silicia: effect on cotton processing, 299
modified silica aquasol, P42
Syton in the wool industry, 248
spinning oils, P90
determining removability by washing, 542
properties and methods for testing, 467
treatment to reduce fiber slippage, P137
wool oils: new blending and oiling process, 98
oxidation, 154
rancidity, 154
CHEMICAL ENGINEERING: in synthetic fibers industry, 516
CHEMICAL TESTING (see also under specific subjects): alkali-stable crosslinks in cotton, 124
chemical treatment of cotton fabrics on a laboratory scale, 262
hydrosulfite analysis and control of vat dyebaths, 254
melamine-formaldehyde resin with Tollen's solution, 154
microchemical reactions for differentiation of synthetic fibers, 539
micro-determination of chloride in cotton, 538
paper chromatography in fiber research, 161
quantitative spectrographic analyses of metallic elements, 543
volumetric determination of antimony, copper, or iron, 25, 354
rH measurements, 126
CHEMICALS, see *Textile chemicals*.
CHEMISTRY, see *Textile chemistry*.
CHENILLE, see *Pile fabrics*.
CLEANING (see also *Cleaning of machinery, Dry cleaning, Laundering Opening, Washing*)
research at Shirley Institute, 142
CLEANING MACHINERY, see *Cleaning of machinery, Opening machinery*.
CLEANING OF MACHINERY (see also specific machinery)
Parks-Cramer traveling cleaners, 188
pneumatic clearer, 267
suction device, P219, P505

CLEANING OF MACHINERY (*Continued*)
thread cleaner, P81
CLOTH INSPECTION, see *Inspection.*
CLOTHING (see also *Fabrics, Fur, Hat industry*)
children's: water repellent cotton play clothing, 247
heat protective, P181, 296
industrial: polyvinyl chloride plastic coated, P508
lingerie: whiteness retention by satin and crepe, 29
outwear: Orlon/rayon blends, 400
overcoat: correlation of laboratory tests with performance, 495
shirts from cotton of two varieties: serviceability, 480
summer: physiological index for evaluating, 349
COATING (see also *Flocking*)
cellulose acetate: with vinyl chloride, P558
glass: adhesion for vinyl resin coatings, 251
glass fiber strands: method of bulking, P378
knitted material, P227
leathercloth, P377, P463, 483
mineral fibers: applying liquid materials, P277
nylon: breathable fabric, P559
high tear strength resin-coated, P181
printed felt base floor coverings, P227
rubber: dense bubble-free coatings, P463
historical development of methods, 402
semi-porous, P227; at least one porous layer, P558
Terylene: coated fabrics with high electrical breakdown voltages, P325
thermo-plastic filaments: manufacture of strings of, P371
vinyl-coated fabrics: methods, 113, P377, 483, P558
yarn: cotton, P278
with metals, P371
COILING, see also *Sliver.*
COILING MACHINERY: P35, P370, P506
COIR (see also *Bast fibers*): 3
COLOR (see also *Color matching, Colorfastness, Dyeing, Spectrophotometer*)
colorimetric methods applied to dyeing and printing, 487
measurement, 124, 125, 217
COLOR MATCHING: instrumental approach, 407
COLORFASTNESS: test methods, 312, 415
theories relating to chemical structure, 169
COMBING (see also *Carding, Hackling*)
cotton: cotton combing (book), 286
noil control, 517
new technique, 331
partial: quality improvement in 3- and 4-cylinder spinning, 287
wool, 188
worsted: control, 123
COMBING MACHINERY: P370
checklist for cotton combers, 331
drive, P81
rectilinear comber: increasing speed, P549
Saco-Lowell model 56, 331
CONDENSING, see *Sliver.*
CONES, see *Winding machinery.*
CONFERENCES, EXHIBITIONS, ETC.: AATCC 1954 convention abstracts, 31
Brussels Exhibition, 368, 454, 504, 547
Canadian Seminar 1954 abstracts, 31
Greenville show, 32
International Congress of Scientific Research, 454, 547
International Congress on Surface Active Agents, 27
Knitting Arts Exhibition, 338
CONSUMER ATTITUDES: analysis of consumer complaints, 453
consumer research in the textile industry, 504
CONVERTERS, see *Tow to yarn.*
COPOLYMER FIBERS (see also *Dynel*)
containing acrylonitrile, 187
COPOLYMER FIBERS (*Continued*)
data sheets, 282, 515
fire retardant fabric, P422
review, 187
CORDAGE (see also *Rope, Tire cord*): cabled yarns: simplified process, 432
glass strand-paper twine, P275
staple cordage: method and apparatus, P458
twine of sisal fibers and resin coated glass fiber strands, P275
woven fabric from synthetic twine, P277
CORDUROY, see *Pile fabrics.*
COSTS (see also *Mill management, Quality control*)
cost accounting in textile industry, 26, 165
hosiery mills cost accounting, 498
power production, 544
profitability calculations simplified, 78
re-equipment economics, 545
textile inventions; economic and technical problems, 547
weaving: relationship between productivity and warp breakage, 478
wool cards, 468
woolen spinning, 391
COTTON (see also *Cellulose, Cotton, Chemically modified, Cotton baling, Cotton fabrics, Cotton fiber testing, Cotton fibers, Cotton ginning, Cotton grading, Cotton growing, Cotton uses, Cotton varieties, Cotton yarn, Cotton yarn testing, Deterioration of materials, Luster, Moisture phenomena* and under specific processes)
breeding for quality, 185
cotton in Central America, 327
Cotton Trade Journal international yearbook, 1954-1955, 383
future, 45
COTTON, CHEMICALLY MODIFIED (see also *Azoton*): 1, 93, 511
acetylated, 248
improved heat resistance by impregnating with dicyandiamide, P42
aminized: flameproofed dyed fabrics, P42
mechanical properties of decrystallized cotton, 1
beta-propiolactone, P559; in the presence of alkali, 269
cyanoethylated, 109, 153, 402
partially, 205
pilot plant production and properties, 109
ethylamine, 365
methylated: fiber properties, 270
pilot plant continuous range for chemical treatment of cotton yarn and fabrics, 109, 153
testing: measuring density with a gradient column, 411
detecting alkali-stable crosslinks, 124
COTTON BALING (see also *Baling and packing machinery*)
waterproof protective covering, P275
COTTON FABRICS: elastic properties when mercerized without tension, 110
COTTON FIBER TESTING (see also *Chemical testing, Cotton grading*)
cotton testing service: tests available, equipment and techniques, 411
drag: evaluating various methods, 259
experiences in cotton-testing, 538
fineness, 538; Arealometer with raw cotton, 22
calculating theoretical fineness for cotton blends, 214
relation to permeability to air, 121
ginning percentage of seed cotton: balance for rapid determination, 213
Hungarian devices, 539
length: laboratory method for staple diagram, 349

COTTON FIBER TESTING (*Continued*)
linters content of cottonseed: methods for determining, 412
maturity, 538
methods, 349
strength: results on available testers and relation to yarn strength, 538
COTTON FIBERS (see also *Neps*): 281
cavitomic cotton, 511
chemical environments: microscopical study of effects on primary wall, 512
cotton in field: effect of weathering on properties, 511
measuring physical properties for complete growing season, 185
study of moisture relationships at time of harvest, 231
electrical resistance: effect of voltage and time, 367
fiber and spinning tests on 1954 cotton, 45, 381, 382
fluorescence: factors affecting, 281
yellowish on raw cotton, 327
fungi as source of unbleachable color, 141
gin-drying temperature: effect, 280, 512
hydrophilic effect during alkaline after-treatment in bleaching, 481
morphological factors affecting proneness to nep, 383
perimeters: study from arealometer values at low and high compression, 141
Pima S-1: commercial spinning tests, 279
pilot plant evaluation of yarn properties and processing, 279
quality: length distribution as a quality factor, 280
1954 crop, 466
reversal distribution and breaking properties, 382
technological reports on Indian cottons, 1954, 384, 466
COTTON GINNING: effect of excessive gin-drying temperature, 280, 512
COTTON GRADING: relationship of aqueous-extract pH, 427
COTTON GROWING: influence of climate, 185
COTTON USES: cotton counts its customers, 231
market outlets for carded sales yarn, 383
COTTON VARIETIES (see also *Cotton fibers*)
cotton varieties planted, 1951-1955, 466
Georgia: 1954, 2
Pima-S-1, 2, 279
Soviet: long-stapled, 281
COTTON YARN (see also *Yarn imperfections*)
equations for predicting skein strength of carded yarn, 382
Pima-S-1: pilot plant evaluation of yarn properties and processing, 279
COTTON YARN TESTING
cotton testing service: tests available, equipment and techniques, 411
strength: predicting from the observed strength of a single count, 540
COURPLETA (see also *Cellulose triacetate*): 96
CREASE-RESIST FINISHING, see *Creaseproofing.*
CREASE RESISTANCE: crease recovery: analysis of process, 264
relationship of tensile properties of fibers, 338
effect of chlorine-liberating detergents, 437
measuring, 264
crease angle, 77, 445
study of 6 methods, 415
micro-structure of cellulose hydrate fibers: effect on creasing, 338
of 20 fabric samples with different structures, 297
yarn twist: effect on crease resistance of fabrics, 339
CREASEPROOFING: 402; cellulosic fabrics, 64, 111, P181, P376
cotton, 111, P136, 309, 437, P558
cotton-rayon blended fabrics, 342
CREASEPROOFING (*Continued*)
effect on light-fastness of substantive dyeings, 154, 298
linen, P558
post-condensation of crease-resistant finishes, 341
quality control program for Zeset-treated fabrics, 541
rayon, 16, P89, P136, 342, P558
resins and quaternary ammonium salts, P182
review, 250; review of patented processes, 438
Spooner polymerizer, 342
urea- and melamine-formaldehyde: modification with polymeric latices, 64
urea-formaldehyde precondensates: faults, 483
viscose rayon, 15
European finishes, 303, 341, 402
CREELING: forms for calculating frequency, 356
methods-time measurement at the ring frame, 416
single and double creeling in spinning, 193
CREELS: P322, 525
detector stop motion, P176
magazine cone creels, P82
spinning frame, P457, P551
for supporting bobbins, P176
yarn-supply, P85
CRIMPING: device for crimping filaments, tops and slivers, P417
nylon yarn, P89
false twist crimping, 289, 393
mechanical device, P44
tow crimper, P129
two processes for crimped yarns from synthetic fibers, 523
CUTTING MACHINERY (see also *Shearing* and under specific processes)
cutting continuous filaments into staple, P33, P369, P505
cutting devices for fiber flock, P275
cutting nylon fabric and sealing the edges, P135
stopping device for staple fiber cutter, P549
thread cutting and inspection machine, P219
CYANOETHYLATED COTTON, see *Azoton, Cotton, Chemically modified.*
DACRON (see also *Polyester fibers, Terylene*)
manufacture, properties and uses, 187
vibroscope measurements of the elastic moduli, 386
DECORTICATION (see also *Retting*): apparatus, P549
bast fibers: decorticator, P505
flax, 45, P549
ramie: machine and method, P33
ultrasonics, 281
DEFECTS, see under *Consumer attitudes, Deterioration of materials, Fabric defects, Neps, Pilling, Tar spots, Uniformity, Yarn imperfections* and specific *processes.*
DEGRADATION, see *Deterioration of materials.*
DELUSTERING (see also *Luster*): measurement of extent of delustering of filament fabrics, 445
DESIGN OF EXPERIMENTS, see *Statistics.*
DESIZING (see also *Sizing*)
defects from faulty desizing, 247
enzymic, 474
abrasion resistance of cotton fabric improved, 113
continuous open-width with bacterial amylases, 402
testing procedure for evaluation on enzymes, 265
theory and practice, 62
DETERGENCY (see also *Detergents*): behavior of soil particles in dilute aqueous soap systems, 449
industrial detergency (book), 362
oxidative detergents on cotton fabrics, 366
physico-chemical factors affecting the detergency mechanism, 170
radioactive soil tracer indices, 450
variations in procedure of measuring reflectance of detergency fabrics, 78
DETERGENTS (see also *Carboxymethylcellulose, Deter-*

DETERGENTS (*Continued*)
gency, Laundering, Scouring, Soiling, Washing)
alkyl-aryl sulfonates: properties and uses, 449
annual review of literature, 449
foaming power: new method for determination, 265
low-foaming: techniques for evaluating, 449, 501
rating performance, 127
relation between chemical structure and BOD, 499
role, 29
synthetic detergents and emulsifiers, 501
synthetic detergents compared with soap, 449
synthetic detergents up to date, 546
table of detergents, etc., 450
wool processing, 533
DETERIORATION OF MATERIALS (see also *Microbiological degradation, Photochemical degradation* and under specific subjects)
bleaching: copper and permanganate number in evaluation of damages, 315
cellulose: degradation by light owing to delustring pigments, 542, 543
resin finishing, 534
thermal degradation of fire-resistant treated, 501
corrosion in dyeing and finishing, 339
cotton: action of oxidative detergents, 366
damage in mechanical processing, 141, 383
detection and quantitative determination of damages, 77
effect of acids on tensile-strength and elongation properties of cotton and rayon, 381
effect of an excessive gin-drying temperature, 280
mild hydrolytic degradation, 500
permanganate value as a measure of degradation in cotton and rayon, 381
Willows-Markort swelling reaction for determining chemical tendering, 411
deterioration of materials (book), 362
discharge printing: fiber damage, 157
high-temperature dyeing: impairment of fiber properties, 404
insect damage: methods for identifying, 448
mechanical processing: cotton, 141, 383
rayon, 381
resin finishing: fiber damage, 154
rubberized fabrics: importance of the metal content of dyes, 114
viscose rayon: ageing of sulfur black dyeings subjected to various aftertreatments, 405
wear tests, 107
viscosity measurements, 447
washing: apparent and real effect, 354
predicting fabric durability and degree of wear, 216
wool: estimation of degree of damage by means of alkali swelling treatment, 260
evaluating effect of chemical treatments by application of papain-bisulfite-urea, 427
staining tests to trace damage at any stage in processing, 25
DIRECT SPINNING, see *Tow to yarn.*
DIRT, see *Soiling.*
DOFFING: doffing and donning apparatus, P130, P458
forms for calculating frequency, 356
method, P219
DRAFTING, see *Drawing.*
DRAWING (see also, *Roving, Sliver, Spinning, Uniformity*): 470
checklist for processing troubles, 50
cotton: drawing systems, 99
investigation of processing technique, 469
drafting efficiency: determining by calculating draft quality factor, 469
fiber movement, 99, 190, 191, 288, 518
gripping of drafted sliver by the top roller, 236
high draft: abbreviated spinning processes, 287
DRAWING (*Continued*)
analysis of certain problems of Hannah's theory, 190
Kepa abbreviated process for worsted and cotton, 100
flyer and ring spinning frame, 390
system for normal and very high drafts, 390
system PK 211 E with pendulum arms, 389
T-stage drawing system and multi-zone drawing system, 100
increasing the draft on a 3-roller drawing system of the ring-spinning machine, 287
influence of apron band properties, 192
measurement of drafting forces, 214, 288, 332, 389
nipping and drafting strengths, 287
number of doublings on draw frames, 332
slip-stick characteristics of slivers and rovings, 470
testing the adhesion and slipping properties of slivers and rovings, 519
theory, 191, 192
uniformity, 470
effect of drafting, 333, 519
leveling effect of ideal drafting, 519
wool: relation between twist and draft, 192, 288
worsted: control, 123
discussion, 333
DRAWING MACHINERY (see also *Drawing rolls, Roving machinery, Sliver, Spinning machinery, Tow to yarn*): P36, P319, P457, P506
aprons, P35
cellular rubber for roller cots and aprons, P174
double apron drafting device, P319
tensioning devices, P550
belt: double, P320
guide cradle assembly, P506
wide, serving at least two spindles, P36
bi-coil drawing frames in India, 50
end cap covering rear parts, P456
German drafting device, P550
gill drive, P506
high draft, P35, P220
PK 211 E. 390
T. K. F. Japanese system, 191
three groups of rollers, P550
intermediate nipping zone device, 469
Japanese drafting systems, 235
Kepa draw frame, 390
Kruse model SBK 5, with divided sliver delivery, 518
method of drafting without first removing twist, P550
nipping and drafting forces, 191
Raper autoleveller, 235
Raper worsted drawing system, 8, 99
scavenger mechanism for pin drafting machines, P506
selfactor type 641, 333
single-apron type, P130
sliver, P220
condenser, P35, P456
detecting and correcting irregularities, P81
mechanical measuring motion, 144
speed frames: top apron drafting and tray weighting, 332
stop motion devices, P35
gilling machines, P174
stopping sliver or roving through feed rollers, P370
strand drafting and tension measuring apparatus, P230
3-over-4 slip draft conversion, 50
Tritex drafting system, P457
two-zone drafting system, P456
vacuum clearer, P131, P506
W. S. T. single-zone draw-frame, 518
Whitin Super-draft two-apron system, 430
DRAWING ROLLS: bearings, P506
clearer, P370
covering, P130

DRAWING ROLLS (*Continued*)
cellular rubber, P174
non-licking material, P35
eccentric: effect upon rayon regularity, 99
fluted rollers for spinning, P83
fly accumulation: designed to reduce, P35
lint deflector, P35
method of converting spinning rolls, P221
modified stand, P456
scavenger roll, P84
steel: maintenance, 357
tape draw-frame roller, P81
top rolls, P35, P130, P456, P457
anti-friction, P457
back top roll of the ring-spinning frame, 145
gripping of drafted sliver, 236
mounting to minimize accumulated fly, P35
top clearer roll construction, P506
weighting device, P35, P36, P81, P130, P174, P220, P506
weighting, P220
saddle weighting motion, P456
spring device for spinning and roving frames, P275
woolen ringframe, 237
DRIVES (see also under specific machinery)
endless driving belts, P422
variable speed drives, 498
for vertical motions of slubbing, roving, spinning and twisting frames, P550
DRY CLEANING: 113
cellulose triacetate, 299
laboratory performance of 9 winter cotton fabrics, 246
measuring launderability of finishes, 532
method, P42
predicting fabric behavior, 245
problems with synthetic and blended fabrics, 399
quality improvement by chemical cleaning of coarse yarn products, 206
simultaneously removing water-soluble and solvent-soluble impurities, P326
techniques and test methods, 170
DRYING (see also *Moisture phenomena, Slashing*)
crease-proofed cotton fabrics, 309
cylinder drying, 19
gas can cut costs, 118
hot-air drying, 118
hotflue as a chemical predryer for developing dyestuffs, 119
methods, 118, 310
nozzle: during resin finishing, 72
pressure: cheeses in a closed system, 347
principles, 310
radiant heat, 309
rapid drying: problems, 257
steam content: effect on quality of drying, 410
superheated steam: principles, 19
water evaporation and heat consumption related to humidity, 309
DRYING MACHINERY (see also *Slashing machinery, Tentering machinery*): P44, P91, P426, P464
cellulose fiber textiles: methods and machinery, 441
cordage, P464
cotton cleaner and drier, P34
Drytester electronic moisture measurement, 118
electric-eye control system for dryer-singer range, 536
fabrics: centrifugal removal of liquid, P380
fluid deflecting baffle means, P184
festoon dryer for back greys, 118
filaments: continuous drying, P91
wound filamentary packages, P426
flat drying frame, 72
hank: revolving rod drier, 310
hot air fabric dryer, P425
increased efficiency, 119
DRYING MACHINERY (*Continued*)
moisture control, P184, P380
nozzle: Kiefer, for fabrics with adjustable length of loops, 410
radiant heating apparatus, P426, P510
Ruti (type LSMA) sizing machine with Artos drier, 526
selvage guide with photoelectric control, 159
shrinking of fabric: method and apparatus, P425
sliver: Fleissner drier, 119, 410, 492
squeezing apparatus, P326
stretching and drying machines, 72
superheated steam, P380; Vits system, 72
tensionless: nozzle and roller arrangements, P380
tenter type, P91
theory, types, principles, 492
tunnels, P425
infra-red tunnel-oven, 492
Vapojet dryer, 152
yarn, P464
yarn packages: centrifuges for spools of yarns, P464
continuously drying, P138
high frequency electric drying, P91
Zimmer (German) for machine printed fabrics, 118
DYEING (see also *Color, Color matching, Colorfastness, Dyeing machinery, Dyeing processes, Dyeing theory, Dyes, Fastness, Fugitive tinting, Gas fading, Lightfastness, Perspiration fastness, Printing, Spectrophotometer, Stripping, Ultrasonics, Waste treatment*)
dyeing and finishing: control of quality, 203
panel discussion, 535
seventy-five years, 61
history, 253, 488
Microdyeoscope for microscopical observations on dyeing, 355
recent developments, 203; 1954 review, 211
research: trends, 255
textile dyeing and printing (book), 439
acetate rayon: azoic dyeing procedure, 17, 114
disperse dyes, 306
fast to cross-dyeing, P379
solvent-dyeing acetate, 207
sulfur dyestuffs, P229
vat, P90, P229
acrylic fibers, 66, 158, 305, 347, 405, P510
Acrilan, 305, 405; sweaters 209, 255
copper salt and furfural, P137
Deorlene colors, 535
Orlon, 62, 304, 488; sweaters, 253
Orlon 42, 346; cationic dyes, 406, 488
vat dyestuffs, P43
wolcrylon, 66
blends: Acrilan, 305
cotton/viscose rayon in a winch, 209
Dacron/cotton, 405, 536
Dacron/rayon: one-bath procedure, 211
Dacron/wool, 70, 157, 406
Merinova, 346
natural/synthetic: reserving polyamide fibers, P44
Orlon, 304; Orlon 42, 440
Orlon/Vicara, 253
Orlon/wool, 488
substantive dyes in union dyeing, 305
synthetic/cellulosic fibers, 209
wool/cellulosic fiber with Cibalan dyes, 114
wool/man-made fibers, 61, 108, 209
wool/rayon staple, P90
cellulose: black, P137
causes of uneven dyeing, 114
direct-dyeing azo dyestuffs, P90
vat dyes, pigments and phthalogens, 405
cellulose triacetate, 439, 487
Arnel, 346; du Pont dyes, 535

DYEING (*Continued*)
copolymers of acrylonitrile and vinylpyridine, P379
cotton: case study data on productivity, 15
cyanoethylated cotton, 116, 153, 535; vat dyes, 69
direct dyes on cotton for wool blends, 487
high temperatures, 210
improvement of dye affinity of dead cotton fibers, 346
softener in rinsing bath to restore spinnability, 69
vat dyeing, 210
glass: resinous coating dyed with a vat dye, P560
vat dyes, P560
jute, 203; jute yarn, 253, 306, 346
man-made fibers: acid dyes, 65
direct cotton and acid dyes, P425
high-temperature, 253
history and development, 108
nylon, P229, 487, 488; acid dyes, 536
azo dyes, P137
carpets, 253
crimp yarn, 536
effect of chlorine, 345
frieze carpet yarn, 535
hosiery, 15; stretchable, 345
hosiery: over-dyeing for two-color and ombre effects, P464
level dyeing yarns of different deniers, P463
logwood, 253
stretchable yarns, 406
polyamide fibers, 440; fast to cross-dyeing, P379
polyester fibers: review, 115
Dacron, 210, 440, 487, 488
Dacron: carriers, 69, 254
Dacron: latyl blue 4R, 210
Dacron: use of diammonium phosphate, 157
Mylar polyester film, 256
Terylene: survey, 115
Terylene with disperse dyes above 100° C., 535
polyurethane fibers: fast to cross-dyeing, P379
polyvinyl chloride fibers, 66
protein fibers: Ardil, P229, 405
Fibrolane, 298
reducing affinity of wool, silk and Lanital for acid dyes by impregnation with sulfamic acid, P425
regenerated: review, 115
rayon: Chlorantin Fast dyes, 488
dye diffusion into rayon yarn as a measure of production uniformity, 208
European practices, 400, 483
spun rayon piece goods, 116
tufted carpets, 489
viscose rayon: determining dye affinity, 114
differential dyeing, 217
fiber damage by the ageing of sulfur black dyeings, 405
high-temperature pressure methods, 441
spun-dyed, 70
staple, 305
wool, P229; characteristics of different wool grades, 157
chrome: differences between oxidized and reduced, 154
chrome blacks, 254
dichromate, 67
felt, 70
here and abroad, 211
high temperature, 489
high temperature pressure method, 441
molten metal: in continuous length with vat or sulfur dyes, P43
neovadine AN for leveling and stripping, 211
oxidation of oil stains, 154
rawstock: continuous in a scouring train, 252
re-used, 70

DYEING MACHINERY AND EQUIPMENT (see also *Finishing machinery*): P183
Barotor, 18, 152, 304
Burlington machine, 209
circulating dye systems, P278, P560
corrosion in dyeing and finishing, 339
fabrics, P278, P379
rayon and staple, 488
reel for propelling in rope form, P377
fibers: loose cotton, 487
fixing a dye: apparatus, P44
hanks: cotton, 487
high temperature, 486
hosiery: Electrocolorset, 489
rack, P137
jig dyeing, 19, P43
kettle, P278
post-war progress, 67
skeins: pressure and agitating apparatus, P137
stainless steel, 67, 116
Swedish pad-roller dyeing machine, 344
temperature control, 65
Turbinator, 110, 257, 408
turbodynamic principle, 344
warps: continuous process for rayon, acetate and cotton, 408
yarn packages, 408
expandible mandrel for rayon cakes, P183
fastening means, P559

DYEING PROCESSES
auto fabrics, 65
carbonized fabrics: difficulties, 344
continuous: accelerating, P229
Indanthrene dyes, 208
an individual thread, P326
literature, 343
ribbon dyeing using fine jets, 252
cuprous ion: acrylic fibers, 158, 347
embossing: cellulosic materials by hot embossing, P230
felt, 203, 253
high temperature, 68, 253, 306, 441, 486, 489
Dacron-wool, 70
impairment of fiber properties, 404
hosiery, 400; nylon, 15, 345, P464
immersion and beating, P43
leveling unevenly dyed material, 65
metallic yarns: piece dyeing, 210
molten metal technique, P43, P229
package dyeing, 308, 441
vat on cellulosic materials, P90
pad: pad steam, 490
pigment indanthrene dyes, 303
sorption effects, 252, 533
pressure, 211
review of forms of dyeing, 209
slivers: indanthrene dyes, 115
spun-dyed, 282; acetate, 207; viscose, 70
stock, 407; standing baths for loose material and yarn with substantive and sulfer dyes, 305
subsequent soaping, 117
top or slubbing, 406
tubular knit goods: synthetic, 344
vacuum method, P425
warps: method, 394
yarn: hank, 335; jute, 253, 306, 346

DYEING THEORY: absolute heats of association, 18
absorption: basic mechanisms during pad-dyeing, 252
thermodynamics, 366
affinities of a series of anthraquinone and carbocyclic vat dyes, 306
assistants: use of, 65
calorimetry in dyeing research, 362
color and dyeing, 304

DYEING THEORY (*Continued*)
cotton: fixation of direct cotton dyes, 407
dye binding to high polymers, 252
dyeing mechanisms in terms of non-polar bonding, 490
dyeing processes, 255, 306
high temperature, 69; behavior of vat dyes, 307
man-made fibers: dye adaptation, 407
relation between structure and dyeability, 408
physical chemistry of dyeing (book), 67
rate of dyeing: influence of dispersing agents, 306
rates of diffusion and their relation to dyeing affinity, 18
relation of reflectance to dye concentration, 407
wool: equilibrium theory of affinity, 307
structure and dyeing behavior, 407
DYES (see also *Dyeing, Pigments*): Anthrasol, 486
chemistry of synthetic dyes and pigments (book), 307
colorimetric estimation of the discharge properties, 124
Coprantine, 208
fluorescent, 116
latyl blue 4R for Dacron, 210
lusane brilliant blue B, 210
luster of cotton, 254
metal content of dyes in the degradation of rubberized fabrics, 114
metallized dyes, 68, 345, P560
Naphthanil red 3G base, 404
naphthols, 211, 254
buffer systems in Naphthol AS dyeing, 486
development of Naphtol AS dyes, 67
influence of substrate on light fading, 68
insoluble brown azo, P379
naphthol plant dyeing procedures, 156
naphthols (book), 304
new Naphthol AS products, 486
process for ice colors, P183
Neutrogene dyes, 485
phthalocyanines, 116
salt in dyeing, 487
substantive, P380
thickening agent with silicic acid gel, 308
vat: analysis by paper chromatography, 125
anthraquinone series, P229
how vat dyeing affects cotton, 210
hydrosulfite analysis and control, 254
influence of temperature, 68, 307
measurement of redox potential, 486
DYNEL (see also *Copolymer fibers*)
on the cotton and American systems, 516
EDUCATION, see *Textile education.*
ELASTIC FABRICS: P509
effects of perspiration, 246
elastic shoe gore, P509
knitted, P277
narrow web loom and method, P87
ELECTRICAL EQUIPMENT: motors, 267
cooling means, P458
for an electronic mule, P36
induction type: controlling, P173
rating and characteristics, 357
trouble shooting, 357, 449
ELECTRON MICROSCOPE: effects of typical chemical environments on the primary wall of the cotton fiber, 512
fiber structure, 259
importance of low beam intensity, 74
recent developments, 160
in textile research, 73
washing process on cotton and wool, 170
ELECTRONIC EQUIPMENT (see also *Uniformity*)
applications to automation, 448
electronic measuring instruments (book), 311
ELECTRONIC EQUIPMENT (*Continued*)
instrumentation in textile mills, 160
ELECTRONICS: basic principles, 452
in testing and machine control, 503
ELECTROSTATIC PHENOMENA, see *Static electricity.*
EMBOSSING: apparatus, P91
back-up embossing, 409
cellulosic materials: coloring by hot embossing, P230
cotton: three-dimensional colored styles, 251
leathercloth: darkening patterns to give antique effect, P377
pattern effects with permanent mechanical effects, P184
EMBROIDERING MACHINERY: shuttle feeder, P41
ENKALON (see also *Polyamide fibers*)
difficulties in manufacturing ready-made articles, 105
in worsted yarn spinning, 516
EVENNESS OF YARNS, see *Uniformity.*
EXHIBITIONS, see *Conferences, exhibitions, etc.*
FABRIC CONSTRUCTION, see *Fabric design.*
FABRIC DEFECTS (see also *Consumer attitudes, Deterioration of materials, Neps, Tar spots, Uniformity*)
black specks and stains, 480
crushed weft: causes, 198
kinky filling: causes, 241
cloth profile recorder, 414
Dacron: pilling and fuzzing, 106
desizing: faulty, 247
drycleaning: synthetic and blended fabrics, 399
dyeing, printing, and finishing, 248, 339
eliminating scattered cloth defects, 476
grading system based on a written manual, 529
knitted goods: dimensional variations, 436
pilling: reducing pill propensity of staple fabric, P278
printing: faults made visible with indicator, P229
rayon: dye diffusion as a measure of production uniformity, 208
sewing, 436
needle streaks in jersey fabrics, 58
seam failure mechanism, 59
silk: causes of yellowing, 428
streaks: causes of warp stripes in velvet, 24
differential viscose dyeing to study barriness, 217
satin, effect of spinning, 471
stripiness in spun rayon fabrics, 529
warp, 15
uneven cloth: causes, 292
washing problems, 113
weaving defects, 293, 398
bad cover or face, 435
Diessner recorder, 57
filament yarns, 528
harness skips, 478
jerked-in filling, 13
microscope attachment for elimination of starting places, 239
misplaced ends, 240
set marks, 528
wool: dimensional faults, 202
faults due to fiber impurities and processing, 296
faults in manufacturing, 148
from uneven distribution of dyes and chemicals, 339
originating in preparation and spinning, 243
sources of wool variability in part wool blankets, 479
FABRIC DESIGN (see also *Fabrics*)
cloth analysis of a continuous filament viscose rayon crash, 151
cloth setting formulas, 60
crepes, 107, 151, 202, 245, 296, 431
modifications of Reiser's method, 151
moss crepe weaves, 60
new method of weaving, 151
superimposing weaves, 15
damask, 435

FABRIC DESIGN (*Continued*)
double-plain, 108, 245
fabric with yarns of different lengthwise shrinking characteristics, P423
fancy twister effects, 151
figured: by adding and deleting marks, 399, 435
idea fabrics using du Pont fibers, 529
jacquard, 339
two-colored point paper drafts with interwoven colors, 293
mock gauze weaves, 108
new weaves from old, 151, 202
novelty yarns: imitation through weave, 152
and loop effects, 151
patterned cellulose-superpolymer: swelling the cellulose, P136
photographic method, P376
scaffolding threads: alginate rayons, 60
spot designs, 152, 339
twill: basket weaves, 480, 529
irregular heddle plans, 297
undulating designs, 245
weavability graphs, 198, 241
weave diagram, 242
webbing, 108
weft: extra weft, 60, 108
reversible structure for dobby loom weaving, 296
wool, 202
pick-and-pick developments, 245
FABRIC HANDLING EQUIPMENT (see also *Metal detectors, Tension devices* and under specific processes)
control system, P132
conveying apparatus, P138
folding devices, P138
multi-folding, P425
sheets, P138
guides: in finishing machines, P184
spreader guide roll, P425
sheet tearing table, P85
straightening apparatus: towel, P464
weft, P425
tensioning apparatus for removing ravellings, P372
tubular textile fabrics, P136
FABRIC PROCESSING, see *Fabric handling equipment, Finishing* and specific processes.
FABRIC PRODUCTS (see also *Bags, Blankets, Carpets, Clothing, Cotton uses, Filter fabrics, Parachutes, Rubber products, Sheets*)
absorbent drying cloths, P423
aerial targets: nylon, P135
bandages, 400
belting, P180
endless driving, P422
endless woven belts, P180
polyvinyl chloride coated laminated conveyor, P377
three-ply fabric for transmission belting, P135
diapers, P423
fabrics printed in right-angled sector figure patterns, P325
Orlon tubings as human artery substitutes, 201
tennis balls: Terylene, P135
thermal-insulation fabric, P181
FABRIC TESTING (see also *Abrasion, Blends, Friction, Inspection, Uniformity* and specific fibers and processes)
bending tester, 24
bursting test, 316
cloth analysis: instrument for transferring design to squared paper, 77
cloth profile recorder, 414
correlation of tests with performance: overcoat fabrics, 495
crimp: methods of test for crimp of yarn in cloth, 265
drape: apparatus and method, P426
FABRIC TESTING (*Continued*)
elasticity: instrument, P464
embedding fabric for microtome sectioning, 542
fatigue tests, 311
insulating properties: Schlieren technique, 497
load deformation: electric inductance gauge apparatus, 311
machine, P92; German equipment, 212
negative spray absorbency test, 316
properties: simplified tests, 164
stiffness: measurement, 263
strength: effect of duration of test, 216
strip measuring mechanism, P230
structural defects: apparatus for analyzing, P184
surface: ROX non-destructive impression method, 496
surface structure: microscopical technique, 496
tearing strength: instrument, 263
texture: methods for testing, 123
thermal behavior, 25, 263
thickness, 165, 496
threads per inch in woven fabric, 265
transparency: comparative study of various fiber types, 416
two-dimensional stress: studies of fabrics, 264
wear resistance: apparatus, P510
weight of yarn: graphical determination, 316
wrinkle resistance tester, P184
FABRICS (see also *Abrasion, Blends, Elastic fabrics, Fabric products, Felt, Fiber:yarn: fabric relationships, Filter fabrics, Friction, Knit fabrics, Lace, Luster, Man-made fiber fabrics, Narrow fabrics, Nonwoven fabrics, Pile fabrics, Selvages, Uniformity* and under specific fibers and processes)
astatic fabric of plasticized filaments, P181
diffusion of water vapor through laminae, 202
fabric hand, 60
flow of fluids through fabrics, 367
fluted, P89
fused fabric assemblies, P325
serviceability: blouse fabrics, 246
cotton/viscose/vicara blended sport shirts, 246
dress fabrics of synthetic blends, 246
4 synthetic tropical fabrics, 59
man-made fibers in curtain marquisettes, 246
structure: crease resistance of 20 different samples, 297
effect on fabric properties, 201, 296
graphical relationships for maximum weavability, 530
practical loom experience on weavability limits, 531
relation of geometric factors to tear strength, 529
textile fabric album (book), 243
thermal behavior: multiple layers, 247, 480
thermo-insulating wool, P325
thermotex fabrics, 25
transparency: comparative study of various fiber types, 416
triple-ply corrugated fabric, P325
upholstery fabrics: comparison, 245
woven fabric from synthetic twine, P277
FADING (see also *Fastness, Gas fading*): magnitude of variations involved in evaluation by visual and instrumental means, 125
FASTNESS (see also *Colorfastness, Lightfastness, Perspiration fastness, Washfastness*)
crocking: device for testing on fiber tufts, yarn and fabrics, 542
factors which influence, 116
developed dyes on spun rayon: fastness ratings, 408
direct dyes: ratings on spun rayon, 211
dyeings: improving wet fastness, P380
dyeings on nylon: improving, P183
methods of testing, 542

FASTNESS (*Continued*)
pleating: dyeings on polyamide fibers, 18
solution-dyed acetate, 207
substantive dyeings: improving, P380
FEATHERS: process for increasing fluffiness, P228
FELT (see also *Hat industry, Papermakers felts*)
Dacron felt, 151, 290
dyeing and printing, 203, 253
felting manufacture, 203, P321, P372
pressed felt: blending, 234; carding, 286
for sanforizing machines and felt calenders, 532
substitute of adhesively-bound fibers, P227
FELTING, see *Felt, Fulling, Shrinkage.*
FIBER IDENTIFICATION, see *Fiber Testing.*
FIBER TESTING (see also *Abrasion, Blends, Chemical testing, Fluorescence, Friction, Microscope and microscopy, X-ray* and specific fibers)
air flow through fiber plugs, 272
birefringence, 121
crimp, 213, 412; optical method, 74
denier: vibrascope for measuring, 121
diameter: speedy method, 312
fatigue tests, 311
fineness and compressibility: Speedar, 312
identification: quick way, 22
length: Uster apparatus and method compared with classical methods, 443
load-deformation: electric inductance gauge apparatus, 311
microwave dielectric measurements, 537
near infra-red absorption spectra, 213
orientation in an electric field, 442
preparation of thin fiber sections, 312, 349
qualitative analysis, 260
quantitative microscopical analysis, 313
strength and elongation tester (stelometer), P278
tensile strength: effect of pen friction, 120
thermal-insulation properties, 160
x-ray in fiber research, 213
FIBER: YARN: FABRIC RELATIONSHIPS: fiber/yarn properties in several mills, 97, 525
fiber chemical structure: relation to textile uses, 399
jute coarseness: relation to yarn, 185
mathematical relationships: yarn/fabric, 480
serviceability: shirts from two varieties of cotton, 480
72 spun rayon fabrics, 14
strength: fiber strength testers and relation to yarn strength, 538
tensile properties: fiber relation to fabric crease recovery, 338
tensional behavior: fiber/fabric, 381
twist: direction of yarn twist and twill/fabric properties, 530
yarn twist/fabric crease resistance, 339
uniformity: yarn/fabric, 497
yarn irregularity fabric picture recorder, 24
FIBERS (see also *Acrylic fibers, Bast fibers, Blends, Cellulose, Copolymer fibers, Fiber:yarn:fabric relationships, Friction, Hair fibers, Man-made fibers, Mineral fibers, Moisture phenomena, Protein fibers, Twist* and under specific fibers and processes)
bending and torsional rigidities, 93
deformation during elongation, 140
dynamic elastic modulus, 139
elastic properties, 465, 511
future, 279
handbook of textile fibers (book), 1
microwave dielectric measurements, 537
pilosity coefficient, 74
plant fibers: leaf, 94; in South Pacific, 232; structure, 185
quality index, 231
relation between variation coefficients of various parameters, 121
review, 93; annual review, 465
small particle X-ray scattering, 503
swelling anisotropy, 381
tensile properties: effect of humidity, 465
tensile strength: relation of a fiber bundle/single fibers or filaments, 162
tensional behavior, 381, 427
twisting: effect on optical diffraction patterns, 465
viscoelastic properties, 271, 427
FILAMENT YARNS, see *Yarns.*
FILAMENTS, see *Fibers.*
FILTER FABRICS: air filters: mechanical electrostatic charging, 243
filtration of aerosols, 366
glass-fiber for dust-extraction plants, P40
sieve, P89
FINISHES (see also *Textile chemicals* and under specific processes)
annual review, 15
isocyanates, P182
molecular bonding, 534
polyvinyl acetate, 483
trade-named finishes, 153
FINISHING (see also *Cotton, Chemically modified, Finishes, Instrumentation, Proofing, Resin finishing, Textile chemicals, Waste treatment, Wool, Chemically modified, Yarn processing* and under specific finishing processes): P90
blends: Dacron/cotton, 299, 340
wool/man-made fibers, 61
cellulose triacetate, 439
cotton: with alkali solutions of copper or nickel biuret, P182
case study data on productivity, 15
cellulose solutions in sodium zincate, 302
effects of typical chemical environments on cotton fibers, 512
linen-like finishes, P182
recent developments, 438
survey, 204
wear resistance and quality of cotton fabrics, 300
crepe fabrics, 111
differential color and/or delustered effects, P42
in Europe and the U. S., 532
Fibrolane, 298
gaseous medium: running warp or fabric, P326
heat-reflective fabrics, P42
higher productivity, 416
improving retention of fillers, P378
man-made fibers, 152, 298; history and development, 108
mechanical finishing, 409
molecular bonding, 500
nylon: heat-sealing trimmed seams of thermo-plastic material, P184
nylon hosiery, 15
automation, 247
with a colloidal solution of silica, P559
improving snag resistance, P509
stretchable, 345
nylon tire-cord: latexing and hot-stretching, 302
Orlon, 62; Orlon 42, 346; sweaters, 253
panel discussion, 535
polyamide fibers, P228
polyester fibers, P228; Terylene, 15
preferential sorption effects in pad baths, 533
pulsatory and vibrational phenomena: symposium, 367
quality control, 203
quality improvement, 298
rayon: European techniques, 400, 483
modern rayon finishes, 16
tufted carpets, 489

FINISHING (*Continued*)
review, 61, 401; recent developments, 203
75 years of dyeing and finishing, 61
steam blasting before liquid treatment, P376
strength: increasing, P41
increasing by impregnation with a terpene hydrochloride, P424
table of wet processing procedures, 483
tables for finishing losses, 15
tubular knitted fabrics, P136, 344
viscose rayon staple, 305
wet heat treatment: fabrics of poor electrical conductivity, P377, P424
wool: temperature effects, 298
wool-like finish: to cellulose-acid-nitrogen complex fabrics, P378
FINISHING MACHINERY (see also *Applicators, Fabric handling equipment, Yarn processing* and specific finishing processes): P378
corrosion, 339
developments, 298, 408; past year, 61
door operated traffic surface, P558
heaters or boilers: regulating device, P326
laboratory scale: chemical treatment of cotton fabrics, 262
padding mangle: principles governing efficiency, 247
pilot plant continuous range for chemical treatment of cotton yarn and fabrics, 153
plasticizing chamber for nylon stockings, P380
rubber coating fabric, P378
shrinking, P557; compressive shrinkage blankets, 532
Spooner polymeriser, 342
tool for clipping off loose ends, P326
turbinator for agitation, 257
washing, dry cleaning or garment dyeing, P227
wet treatment of fabrics, P379, P559
FIREPROOFING, see *Flameproofing.*
FIXING, see *Setting, Stabilizing.*
FLAMEPROOFING: camouflage netting, 111
cellulose, P423
compositions, P182, P560
brominated triallyl phosphate, 534
reaction mechanism on cellulose, 501
cotton: dyed aminized cotton fabrics, P42
effect of agents on cotton cellulose, 342
emulsion treatment using an organic phosphorus-bromine polymer, 112
THPC process, 303; distribution of phosphorus, 483
fireproof fabric, P558
history of flammability testing, 78
methods and processes reviewed, 112
nylon, 343
permanent to weathering and to laundering, 16
review, 207
FLAMMABILITY: fire retardant fabric, P422
testing: history and methods, 165
and the law, 353
modification of AATCC flammability tester, 217
test series for fabrics weighing less than 2 oz./sq. yd., 25
two methods of assessing, 445
FLAX (see also *Bast fibers*): effects of atmospheric conditions during processing, 329
flax canvases: moisture and strength relations, 316
FLOCKING (see also *Printing*): P41
adhesive attachment to backing, P227, P277, 490
AWR electrostatic flock printing machines, 19
continuous printing and flocking, P43
electrostatic, P136, P463
on foamed rubber latex, P424
pile flocked knitted fabrics, P558
sprayed asbestos, 328
technique of printing and coating, 108
FLOCKING (*Continued*)
Text-O-Stat flock and screen printing machine, 490
watertight and air pervious fabric, P462
FLOW: air flow through fiber plugs, 272
flow of liquids into capillaries, 273
laws of flow of fluids through fabrics, 367
FLUORESCENCE: cotton, 140; factors affecting, 281
yellowish fluorescence, 327
fluorescence microscopy, 310
FORMALDEHYDE: 169; determination in cellulosic materials, 125
reaction with cellulose, 364, 467
FRICTION (see also *Chemical aids to processing*)
belt tension formulas, 272
cellulose acetate yarn and cylindrical metal surface: dynamic friction, 261
fabrics: surface friction, 264
fiber, 1, 511
application to drafting force and fiber control calculations, 161
basic mechanisms, 139
between fringes of fibers, 139
correlations between values and processing behavior, 161
differential friction of wool fibers, 282
evaluating cotton measurement methods, 259
influence of liquid films, 272
measuring methods, 161, 442
Reiwigraph tester for fibers and filaments, 350
review, 547
viscose: relation to relative humidity, 21
nylon plastic, 5, 272
nylon yarns and guides: measurement of kinetic coefficients, 163
parachute materials: apparatus for study of friction and fusion, 263
ring spinning: influence of friction and traveler weight, 521
roving: measurement, 470
slivers and rovings: dependence upon fiber properties, processing methods and special treatments, 470
devices and testing methods, 353, 519
tire cords: internal friction, 272
rayon: effect of finish, 147
yarn-package coefficient of friction: relation, 215
FUGITIVE TINTING: acetate rayon using cation-active assistants, 305
removal from staple fibers, 112
FULLING: study of series of cloths, 438
woolen overcoatings, 400
FUNGI AND FUNGICIDES, see *Microbiological degradation, Mildewproofing.*
FUR: man-made furs industry, 436
synthetic wolverine furs, 59
thermal insulation of caribou pelts, 532
GAS FADING: disperse dyestuffs, 446
inhibitors, P463; treatment of dyed cellulose esters and ethers, P229
GERMPROOFING: composition and method, P378
cotton and wool fabrics: disinfecting solutions, 274
GINNING, see *Cotton ginning.*
GLASS FABRICS: adhesion for vinyl resin coatings, 251
bonded mat, P89
nonwoven glass fabrics: methods, P176, P226
specifications and methods of test, 410
GLASS FIBERS: data, 188
manufacture, properties and uses, 142, 283
method of bulking, P378
GLASS YARNS: specifications and methods of test, 410
strand-paper twine, P275
twine: sisal fibers/resin coated glass, P275
HAIR FIBERS: acid-treated: interaction with water, 328
effect of reducing agents, 269
HARNESSES (see also *Heddles*): P87, P134, P224, P323

HARNESSES (*Continued*)
cord, P133; frame, P276
helical spring type, P225
stop motion, P276
HAT INDUSTRY: problems, 531
HEAT PHENOMENA: caribou pelts: thermal insulation, 532
clothing: heat-retaining power, 160
clothing (summer): physiological index, 349
cotton, chemically modified: improved heat resistance, P42
fabrics: heat-reflective, P42
thermal behavior of multiple layers, 247, 480
thermal-insulation, P181
insulating materials: effect of moisture on transfer of heat, 481
testing: fabric warmth, 263
Schlieren technique for fabrics, 497
thermal behavior of fabrics, 25
thermal-insulation of fibers, 160
HEAT SETTING, see *Setting*.
HEDDLES (see also *Harnesses*): P38, P177, P420
appliances for moving the heddle shafts, P177
circular loom: cam-operated, P322; control, P322
frames, P87, P133, P276, P555
selvage heddle frames for mails, P179
machine for operating upon, P39
HOSIERY (see also under specific processes): P40, P226, P555
circular knit, P324
elasticity study, 479
fitting: controls for lengths, 338, 479
geometric approach to sizing and fitting, 58
scientific proportioning, 200
full-fashioned, 13; knee-length, 58
history, 14
permanently set, P422
plated heel inlay, P376
problems in manufacture, 201, 529
quality control, 500
removing markings, 17
research, 548
seamless, P324
sheer: crepe-like, P375
stretch, P461; stretch-sheer, P371
HOSIERY MACHINERY: P88
Banner SCP machines: guide to fixing, 13
circular: movement timing and control, 106
electric drives, 435
full fashioned, P375
closing the toes and heels, P40
measuring device, P422
plasticizing chamber for nylon, P380
Reading 100 full fashioned speed variator, 13
repair apparatus, P422
trimming device, P556
HUMIDITY (see also *Moisture phenomena*)
flax: effect during processing, 329
nylon: effects of temperature and humidity, 98
relative humidity registrations, 127
viscose: frictional force/relative humidity relation, 21
worsted: electrostatic charges/humidity relation, 171
IDENTIFICATION, see specific subject as *Blends, Fiber testing*.
INFRA-RED (see also *Spectrophotometer*)
fibers: near infra-red absorption spectra, 213
infra-red primer, 80
INSPECTION: cloth: apparatus, 24, P557
Lindly automatic equipment, 165
grading system based on a written manual, 529
hosiery: apparatus, P556
thread cutting and inspection machine, P219
INSTRUMENTATION (see also *Electrical equipment, Electronic equipment, Testing* and under specific processes)
Centralograph for recording production of connected machines, 448
control methods and controllers, 79
data handling systems, 349
instruments at the Physical Society show, 349
1955 instrumentation survey, 310
process control, 73
Swiss textile instruments, 357
JUTE (see also *Bast fibers*)
determination of xylan, 260
developments in processing machinery, 267
differentiating Bimli and Mesta fibers from jute, 513
differentiation from other vegetable fibers by acetyl content, 492
effect of maturity on fiber dimensions, 231
effect of resins on wet-strength and water adsorption, 484
elastic properties of filament, 45, 466
elastic response of varieties of jute fibers, 21
hemicellulose structure, 512
humidity correction for mass of fiber, 513
jute and its substitutes, 185
machines for preparation and weaving, 148
relationship between fiber/yarn coarseness, 185
softening root cuttings, 513
JUTE YARN: faults, 102
mechanical characters: yarn standard, 45
KAPOK (see also *Bast fibers*): treating preparatory to spinning, P549
KENAF (see also *Bast fibers*): moisture/strength relations of decorticated fabric, 513
KERATIN (see also *Feathers, Wool*)
amino acid composition, 232
mechanism of supercontraction, 502
theories of combination with mixtures of sulfuric and hydrochloric acids, 27
KIERING: effect on cotton crystallinity, 340
KNIT FABRICS (see also *Hosiery, Lace* and specific processes)
coated, P227
dimensional variations, 436
double faced fleece, P375
elastic, P226, P277
geometry of a plain knitted loop, 530
influence of woven structures, 60
jersey: engineering approach to construction, 200
needle streaks, 58
knitted outerwear technology, 242
laminated: highly stretchable, P277
looped fabrics, P555
method of laying out, 338
pile fabrics, P509, P558
plastic threads (one pre-shrunk), P462
rib knitted fabric with selvage, P40
shearing sleeves, P230
simplex glove fabrics, 58
tricot: fitted bed sheets, 399
knitting with cut pressers, 398
large open-work effects, 245
pleated, 58
tubular: treating after wet processing, P136
warp knit: effect on stretching, 436
on F. N. F. machines, 295
new end-uses, 201
orthopedic casts, P375
pleated and cloque effects, 106
KNITTING (see also *Hosiery, Lace*)
controlling wildness of twisted yarn, P461
ideal knitting package, 338
interlock pattern constructions, 150
knitting graph guide, P556
modern knitting production, 201

KNITTING (*Continued*)
plated goods on flat machines, 398
run resisting fabric on straight bar machine, P462
tricot: with cut pressers, 398
Dacron, 106
nylon, 14, 150
warp: fault prevention, 201
KNITTING MACHINERY (see also *Hosiery machinery*): P40, P88, P226, P555
beam drive, P555
circular, P39, P88, P225, P324, P375, P422, P555, P556
articles with different length parts, P461
drawing-off mechanism, P39, P375
drive, P324, P556
knitted loop fabric, P375
pattern mechanism, P88
pick mechanism, P555
yarn changing mechanism, P324
yarn control, P180, P375
yarn feeding mechanism, P88, P556
cloth-measuring device, 398
crocheting and Raschel, 242
elastic fabric, P462
flat, P225, P375; latch needle, 13, P88, P134
flaw detector, P40
42nd Knitting Arts Exhibition, 338
full-fashioned, P324; verge plate, P375
driving the thread guide, P226
heating arrangement for center bed, P324
yarn carrier, P226, P556
guiding and adjusting, P324, P462
hand, P324; comb, P324; thread-exchanging device, P375
lubrication, P277
modernizing combed cotton knitting yarn mill, 79
narrowing finger, P556
needle, P40, P461
elongated comb, P461
two part assembly, P462
pattern mechanism, P40, P277
rectifying pulled threads, P422
selector mechanism, P88, P226
speed: change speed mechanism, P88
yarn-speed meter, 398
spring needle knitting machine, 58
stop motions, P87, P88, P134, P135, P225, P226
straight bar, P555, P557
Coulier or draw mechanism, P134
movement timing and control, 58
sinker heads, P376
welt turning mechanism, P40
stroboscopic apparatus, P180
superposed cylinder type, P556
terry loop machine, P462
warp, P134, P135, P375, P556
F. N. F. 168 in., 479
let-off mechanism, P556
level indicator, P40
photoelectric stop motion for two bar machine, P375
sealing yarn beams, 242
tensioning device, P40, P135
thread guide mechanism, P40
weft knitted plush fabrics, 242
yarn carrier, P135, P556
yarn holder and cutters, P422
yarn tensioning apparatus, P324
KNOTS AND KNOTTING: bill cutter and yarn holder for knotter, P459
double weaver's knot on a netting loom, P508
Mellor Bromley technique, 55
portable knot tying device, P459
winding machines: automatic knot-tying, P372
LACE: modern lace making processes, 54
LACE MACHINERY, P321; crocheting and Raschel machinery, 242
LAMINATED FABRICS: compressive shrinking of stitched fabric assemblies, P557
fused fabric assemblies, P557
multi-ply fabric: bonding and compressive shrinkage, P557
finishing, P559
polyvinyl chloride coated conveyor belting, P377
slipper fabric from bonded layers of fabric or felt, P376
LAPS AND LAPPING (see also *Picker laps, Sliver, Uniformity*)
decreasing thickness while increasing width, P319
half-laps for combing machines, P369
lap-forming apparatus, P81; transmission, P173
new comber preparation, 235
sliver lapping machines, P220, P456
testing laps (cutting and weighing), P92
web dividers: new construction, 285
LAUNDERING (see also *Detergents, Shrinkage, Soiling, Washing*)
commercial laundry process, 204
measuring launderability of finishes, 532
predicting fabric durability, 216
principles of laundering (book), 368
typical problems, 204
wool: shrinkage from various laundering procedures, 244
LEVELNESS OF YARNS, see *Uniformity*.
LIGHTFASTNESS: azo dyes: influence of substrate, 68
direct dyeings, 210; effect of anti-crease finishes, 154, 298
dyes: influence of physical state, 345
man-made fiber fabrics, 245
tendering of titanium-dioxide delustered fibers, 542, 543
testing: artificial light, 124
fading lamps, 126
stability to light of man-made fibers, 543
LILION (see also *Polyamide fibers*): 95
LOOMS (see also *Bobbins, Carpet looms, Harnesses, Heddles, Narrow fabrics, Picking (weaving) and picker sticks, Pile fabrics, Selvages, Shedding, Shuttles, Temples, Tension devices, Weaving, Weft mechanisms, Winidng machinery*): 527, P555
actuating mechanism, P421, P553
adjustable spreader, P421
aligning beams for wide cloths, P460
ASTRA mixed weft box loom GMWA, 11, 104
automatic, P38, 197, 240, 295, P322, 335, 337, P373, 477, P554
beat-up: double comb mechanism, P87
flexible means, P224
brakes: Crompton Knowles warp beam, 199
broadcloth loom: increasing output, 395
circular looms: P38, P86, P87, P177, P223, P322, P421, P460
beating-up reed, P38
center selvage device, 12
centrifugal electric switches, P223
delivery of woven fabric, P223
German and Austrian, 241
stop motions, P177, P322, P374, P420
warp crossing means, P86
warp tension compensator, P323
for weaving hose, P553
clamp, P180, P374, P554
cleaning: continuous, 336
filling fork well cleaner, P421
grate cleaner, P133

LOOMS (*Continued*)
traveling loom cleaner, P39
cloth width: device for maintenance during weaving, 527
dobby looms: 106, P225
double lift open-shed dobby, P374
Gusken open-shed dobby loom, 56
Knowles dobby motion, 397
locking the draw hooks, P224
mechanics of dobby shedding, 199, 240
paper pattern indicated dobby, P420
survey of mechanism and action, 294, 396
transmission, P225
Draper looms: position stopping, 57
driving mechanism, P224; individual control, 293; lay, P178; rod looms, P374
electrical control system, P460
fabric wind-up means, P555
filling breakage: causes and remedies, 434
fixing, 397
four-box loom, 12, P133
frames and reinforcing cross-members, P225
French looms, 148
German looms and loom devices, 104, 148, 336
gripper shuttle, P38, 295, P422
Domesta double gripper, 104
Neumann, 240
reed and shuttle guide, P134
safety devices for drives, P508
shuttle race, P460
hand, P87, P276
hydraulic shaft control, 13
international developments, 336
Italian looms, 148
jacquard: P133, 397
card operating mechanism, P223
card presentation motion, 199
mechanical motion, P178
mechanism, P508
open shed mechanism, 294
selector bars, P553
for single shuttle automatic looms, 149
speeds, 476
pattern card cylinders, P323
positive return motion for needles, P223
safety device, P554
knockoff means, P179
lay swords from laminated wood, 396
leno, P225
let-off, 198, P225, P276, P460; narrow looms, 395
measurements: devices, 150
electronic timing indicator, 149
machine stops, 160
processes: warp tension, weft tension, and shuttle flight, 239
mechanisms and a beam carrier, 57
netting: double knot netting loom, P374
new developments, 12, 290, 294
changes in relation to cost and productivity, 56
pick-and-pick, 12, P39, P134, 200
reed, P87, P225, P553; threading device, P276
roll: cloth roll support means, P422
cover material, P555
Schonherr Buckskin loom, 477, 527
selvage motion, P225
shuttleless, P133, P420, P554; Czechoslovak, 240, 477
stationary weft supply, P178, P323
stop motion, P223, P276, 336
electric, P38, P461
intermittent, 477
warp stop motion, 13, P39, 337, P374, 477, P508
take-up motions, 241, P373, 396, P554
tension: dynamic warp-tension measurements, 478
tension control, P323

LOOMS (*Continued*)
battery thread tensioner, P420
fabric, P177
filling-tension analyzing instrument, 163
selvage threads, P177
warp, 104, 337, 398
thread cutter: electrical circuit controlling, P554
Stafford type, P374
weft replenishing loom, P39
thread removal during change of bobbin, P223
vertical, P323
warp protector, P224
LUBRICATION (see also *Chemical aids to processing* and specific machinery)
friction and lubrication of nylon, 5
LUSTER (see also *Delustering, Mercerization*)
cotton: special swelling treatments and nonthermosetting additives, 110
dyes and luster, 254
man-made fiber fabrics: Pulfrich photometer, 445
MACHINE INTERFERENCE, see *Time study.*
MACHINERY (see also *Cleaning of machinery, Metal detectors, Textile machinery,* and specific machinery and processes)
MAINTENANCE (see also *Cleaning of machinery* and specific machinery)
MAN-MADE FIBER TESTING (see also *Blends, Chemical testing*): fatigue, 539
flexural rigidity, torsional rigidity and twisting angle at break, 260
qualitative analysis, 214
MAN-MADE FIBER YARN: determination of liveliness, 122
MAN-MADE FIBERS (see also *Acrylic fibers, Alginate fibers, Blends, Cellulose, Copolymer fibers, Polyamide fibers, Polyester fibers, Polyethylene fibers, Protein fibers, Rayon, Vinyl fibers* and under names of specific fibers and processes): 329
chemical fiber index, 514
comparison of selected characteristics, 233
conversion nomographs, 233
criteria for deciding textile utility, 5
data, 4, 47, 385, 428, 515
du Pont fibers and types now in use, 233
future, 45, 515
German technical progress, 328
industrial uses, 4, 386, 429, 515
industry: chemical engineering aspects, 516
Japanese, 48
producers, 4, 515
production data, 385, 474
progress, 187, 515
properties needed for cotton-system processing, 282
review of 1954, 142
spun-colored, 282
synthetic-fiber table 1955, 428
MEASUREMENT, see *Testing* and under specific subjects.
MERCERIZATION: Butterworth yarn mercerizer, 206
cotton yarn, 301
dry carded yarn: experiment, 301
patterned cellulose-superpolymer fabrics by swelling the cellulose, P136
piece goods, 156
Simili mercerizing (calendering), 117
single-end mercerizing process, 249
tensionless: elastic properties of cotton yarn and cloth, 110
theoretical study, 484
yarn in skeins: basic research, 249
METAL DETECTORS: magnetic comb for removing metallic waste, P455
METALLIC YARNS: brief review, 523
coating process, P371
laminated metallic thread, P419

METALLIC YARNS (*Continued*)
Metlon-Mylar: properties and uses, 102
non-tarnishing, 334
technical and production data, 385, 474
MICROBIOLOGICAL DEGRADATION (see also *Fluorescence, Proofing*)
cavitomic cotton, 511
detection on cellulose fibers, 172
micro-organisms and methods of testing, 172
resistance of chemically modified celluloses, 368
resistance of chemically modified wool, 141
resistance of flax, kenaf, retted jute, 453
MICROSCOPE AND MICROSCOPY (see also *Electron microscope, Fluorescence*)
cross-sectioning slide, 347
fabric embedding for microtome sectioning, 542
fibers: permanent and temporary mounting methods, 537
preparation of thin sections, 312, 349
fluorescence microscopy, 310
instruments and methods, 120
quantitative determinations, 313, 347
reflecting microscope: applications, 258
simple testing methods, 259
Swiss projection microscope Megascope, 537
technique for examining fabric surface structure, 496
MILDEWPROOFING (see also *Microbiological degradation, Rotproofing*): P90
agents, 343, 403
processes, 172, 343
testing methods, 343, 403
treatments for sandbags, 274
zinc thiocyanate, P228, P424
MILKWEED: cellulose: molecular properties, 513
MILL BUILDINGS (see also *Air conditioning, Electrical equipment, Machinery, Quality control,* etc.)
building constructions, 543, 544
floors and trolley wheels, 498
heat and power facilities, 128
measuring cotton dust content in air, 265
modern mill designs, 27, 128
MILL MANAGEMENT (see also *Automation, Costs, Mill buildings, Productivity, Quality control, Time study,* etc.): 356
"better visibility" of the manufacturing operation, 318
case history reports of modern equipment, 128
co-ordinating mill production and sales, 26
economics of re-equipment, 545
how the control program operates, 167
mill efficiency on print cloth and corduroy, 199
modern mill organization, 78
modernizing combed cotton knitting yarn mill, 79
power production, 544
preventive maintenance control of machinery, 268
role of management consultants, 368
television as a tool of management, 416
worsted mill management program, 218
MILLING, see *Fulling.*
MINERAL FIBERS (see also *Asbestos, Blends, Glass fibers*): 186
MODIFIED FIBERS, see *Fibers* and names of specific fibers.
MOISTURE PHENOMENA (see also *Drying, Humidity*)
Australian flax canvasses: moisture and strength relations, 316
cellulose fibers: moisture content and small-angle x-ray scattering power, 384
effect on transfer of heat through insulating materials, 481
in fibers, 327
mathematical treatment of evaporation of water drops, 273
measurement: comparison of two meters for raw materials, 120
Eicken instruments, 152
MOISTURE PHENOMENA (*Continued*)
electrical apparatus for traveling web, P184
electronic, on one running rayon thread, 75
infra-red method, 260
moisture indicator on picker, 6
yarn package, P44
moisture absorption of viscose rayon: effect of high temperature treatments, 142
reactions at wet-dry interfaces, 271
spun rayon yarn: effect upon appearance of fabrics, 529
MOISTURE REMOVAL, see *Drying.*
MOTHPROOFING: Dieldrin for wool, 343
di-pentachlorphenyl-mono-hydrogen phosphate, P378
finishes, processes, testing methods, 343
insect damage: methods for identifying, 448
MITIN: for wool/synthetic blends, 343
Strobane and Perthane for wool, 438
water-soluble asymmetric ureas and thioureas, P42
NAPPING: 441; essentials for good napping, 347
teasels, P91, 347; fuller's compared with metal, 257
NAPPING MACHINERY: P91, P278, P464
Auto-Zero raising device, 257
Gessner napper, 441
raising rollers: speed and adjustment, 159
recording devices for cloth speed and roller speed, 159
NARROW FABRICS (see also *Braiding, Selvages* and specific processes)
narrow looms, P421; elastic webbing, P87
weft inserted in double picks, P322
selvages for straight, elastic and fancy-edged ribbons, 297
NEPS: morphological factors affecting proneness to nep, 383
nep potential meter, P92, 161
Neptel for counting yarn imperfections, 314
study of nep formation, 94
NONWOVEN FABRICS (see also *Glass fabrics*): P89, P227, P510
automobile upholstery: fibrous base impregnated with rubber and a novolak resin, P509
bonded, P90, 107, P424
cross-laid, P376, P557
felt substitute of adhesively-bound fibers, P227
historical development, 243
Italian Peplon, 243
laterally extensible, P226
leatherlike, P463
machine, P132, P181
method: using air currents, P509
pile carpet or fabric, P325
porous absorbent, P89
production and utilization, 339
rubber bonded, 534
thick laminated, P89
water absorbent, high tensile strength, abrasion resistant, P510
NUCLEONICS, see *Textile nucleonics.*
NYLON (see also *Polyamide fibers*): 233
fiber: effects of temperature and humidity, 98
sorption of gases having acidic and basic properties, 271
manufacture, properties, uses, 187
multiple necking effect, 515
plastic: frictional properties, 272
new kind, a polycapramide, 283
straggling nylon problems, 233
vibroscope measurements of the elastic moduli, 286
wettability, 28
yellowing: factors affecting, 246
NYLON FABRICS: breathable coated, P559
NYLON YARN (see also *Tire cord*): method for producing high-twist superpolyamidic, P371
moisture regain of 66 nylon continuous filament, 195

OILING, see under *Chemical aids to processing, Lubrication,* and specific machinery.
OPENING (see also *Blending, Picking*): aerodynamical study, 234
cotton opening and picking (book), 284
rayon staple: single process system, 98
research at Shirley Institute, 142
waste tests in 40 mills, 189
OPENING MACHINERY (see also *Blending machinery, Metal detectors, Picking machinery*): P173, P369, P505
aerating, blooming and cleaning machine, P319
asbestos, P173
comb for surplus fiber from spiked lattice, P319
cotton cleaner and drier, P34
disintegrating bales of bagasse, P33
feeding means, P319
new hopper bale opener, 234
Saco-Lowell F-7 feeder and number 15 opener, 330
SRRL carding cleaner, 284
Whitin axi-feed and axi-flo, 142, 330, 517
OPERATIONS RESEARCH: 453
application to industry, 266
operations research for management (book), 266
OPTICAL BLEACHES, see *Bleaching, Dyes.*
ORLON (see also *Acrylic fibers*): data, 283
manufacture, properties, uses, 187
properties of blends, 515
tubings as human artery substitutes, 201
PACKAGING: yarn tube wrapper, P275
PACKING, see *Baling and packing machinery.*
PAPERMAKERS FELTS: cotton and nylon, P88
fabric for paper-making machines, screens, etc., P180
PARACHUTES: air permeability of parachute cloths, 242, 398, 530
friction and fusion of parachute materials, 263
symposium on parachute textiles, 202
PATENTS: are your designs inventions, trademarks or writing?, 31
government-owned inventions available for license, 32
PERSPIRATION FASTNESS: elastic webbing: effects of perspiration, 246
man-made fiber fabrics, 245
PHOTOCHEMICAL DEGRADATION (see also *Lightfastness*)
cellulose: delustered and non-delustered, 156
in presence of titanium dioxide, 445
PHYSICS (see also *Color, Electronics, Radioactive tracers, Static electricity, Ultrasonics*)
PICKER LAPS (see also *Picking, Uniformity*)
apparatus for measuring lap thickness on the calender roll, P426
making uniform picker laps, 330
PICKING (see also *Opening*): cotton opening and picking (book), 284
PICKING MACHINERY (see also *Opening machinery*): P129
picker bar and tooth assembly, P130
pneumatic condensers, P129
PICKING (WEAVING) AND PICKER STICKS: buffers, P39, P224, P460
check strap, P38, P86
lug straps, P422, P459
patent literature since 1882, 12
pick-and-pick motion, P133
picker stick, P225; check, P39, P554
pickers, P86, P177, P223, P225; guide, P87
pickers for under-pick looms, P39, P178, P420
picking motion, P39, P374, P460; continuous control, 56
stroboscopic study: endless check straps, 56
spindle bumper straps, 150
sweepsticks, P87, P134, P179, P461
PIGMENT PRINTING: cellulosic and resinous binding agents, 256
PIGMENT PRINTING (*Continued*)
pigmented prints, impregnations, coatings, P90
use of pigment dyes, 257
PIGMENTS: chemistry of synthetic dyes and pigments (book), 307
metallic flake, 308
PILE FABRICS (see also *Carpets, Flocking, Terry fabrics, Tufted fabrics*): P135, P277, P325, P509
adhesively attached pile fiber, P181, P227
apparatus, P41, P89, P226
caribou pelts: thermal insulation, 532
chenille, 531
cotton corduroy: AHEA consumer standard for lightweight, 24
cushion pile fabric, P181
embossed, P135
frieze fabrics: weaving, P460
knit fabric, P509
pile fabric circular machines, P375
weft knitted plush fabrics, 242
locked pile fabric, P89
method, P41, P89, P226
moquettes: influence of warp tension on tufts, 396
mechanism for plain and fancy moquettes, 150
multiple ply fabric, P509
reversible, P41
stabilizing, P228
teddy bear pile fabrics: finishing, 153
textured, P41
treating with synthetic resin, P278
velvet: causes of warp stripes, 24
cotton, production and finishing, 297
velvet type fabric, 14, P376, P508
weaving: apparatus, P421
binder interposed between pile and stuffer warp ends, P421
high and low loops, P323, P325
loop fabric produced by warp slackener, 396
multiple pile staggered W-weaving, P421, P462
new dobbies for double velvet and plush looms, 56, 106
pile wire loom, P134, P225, P324, P374, P421
shifting pile warp threads laterally, P421
PIRNS, see *Winding machinery.*
PLASTICS (see also *Man-made fibers, Nylon*): construction materials in fiber plants, 357
reinforced with fibrous materials, P278
review of 1954, 80
wettability of nylon, polyethylene terephthalate, polystyrene, 28
wire reinforced plastic material, P135
PLEATING (see also *Setting*): fan-pleated holland blinds, P560
fastness of dyeings on polyamide fibers, 18
POLYAMINOTRIAZOLES: 5
POLYAMIDE FIBERS (see also *Enkalon, Lilion, Nylon*)
differentiation, 21, 349
polymer progress, 515
structure, 362, 386
technical progress, 386
POLYESTER FIBERS (see also *Dacron, Terlenka, Terylene*)
chemistry, 142
data, 95, 283
microscopical identification, 493
polymer technology, 516
technical progress, 386
POLYETHYLENE FIBERS: wettability by hydrogen-bonding and halogenated liquids, 28
POLYMERS AND POLYMERIZATION (see also *Cellulose* and names of fibers)
block and graft copolymers, 168
molecular weight distribution curves, 168
review of man-made fiber polymer chemistry 1954, 96

POLYVINYL FIBERS, see *Vinyl fibers.*
PRINTING (see also *Dyeing, Flocking, Pigment printing, Printing pastes, Screen printing*)
acetate: with vat dyes, 212
bonding the material to the table, P510
checking contamination of color using a radioactive substance, P137
continuous printing and flocking, P43
direct: cellulose acetate, 19, 71, 490
discharge: acetate, 19
coprantine dyes, 113
fiber damage, 157
man-made fibers, 490
polyamide fabrics, 308
white, 536
fast-color printing, 115
faults: visible with indicator, P229
felt base floor coverings, P227
glass decorative fabrics, 255
glycerine in printing, 308
historical survey of London area, 409
metallic gloss effects resistant to rubbing and washing, P183
Orlon, 256
polyacrylonitrile fibers: Sandocryl method, 490
process for ice colors, P183
rayon, P137
resist-printing: non-cellulosic materials, P183
sources of waste, 409
technique with mixtures of naphthols and developers, 71
Terylene, P137
textile dyeing and printing (book), 439
vat-dye printing, 19, 158, 304; fiber damage, 66
vigoureux or melange, 409
wool: for melange effects, 212
PRINTING MACHINERY: colors fed to interior of partially permeable rollers, P463
German roller printing machines, 117
model 54 French Printmaster, 71
simultaneously printing fabric on both sides, P379
Textima roller printing machine, 158
PRINTING PASTES: indigoid vat dyestuffs, P230
metal complex dyes, 256
non-alkaline thiourea dioxide paste, P379
for soft, moisture-proof printed fabric, P560
sulfur dyes, 71
thickening agents: polyvinyl alcohol solutions in printing nylon, P183
silicic acid gel, 308
vat printing, 491
PRODUCTIVITY (see also under specific processes): bleaching, dyeing, finishing, 416
cotton and rayon weaving, 416
Shirley Institute survey of 50 spinning and weaving mills, 166
woolen industry, 217
PROOFING (see also *Creaseproofing, Flameproofing, Germproofing, Mildewproofing, Mothproofing, Resin finishing, Rotproofing, Shrinkproofing, Waterproofing, Weatherproofing*)
impregnation of cotton fabrics with emulsions of synthetic polymers, 155
PROTEIN FIBERS (see also *Ardil, Blends, Hair fibers, Keratin, Silk, Wool*)
electrical resistance, 367
manufacture of fiber from groundnut protein, 282
QUALITY CONTROL (see also *Costs, Sampling, Statistics, Time study, Uniformity*)
AKU spun rayon yarn experimental mills, 128
control chart technique, 21, 361
cotton manufacturing, 360
dyeing and finishing, 203
filament weaving, 268
QUALITY CONTROL (*Continued*)
hosiery, 500
how much testing should a mill do?, 258
how the control program operates, 167
improved simplified analysis chart, 545
Joanna methods, 360
knitting production, 201
management tool, 361
nomographic methods, 160
pinning down quality responsibility, 318
program for Zeset-treated fabrics, 541
quality control through statistical methods (book), 26
setting up the control laboratory, 218
standards for waste control, 500
textile applications, 317
textile quality control papers (book), 317
too much perfection in quality, 79
weaving, 197
worsted mill management program, 218
QUILLING, see Winding.
RADIOACTIVE TRACERS: checking contamination of printing color, P137
deposition of carbon on cotton, 501
soil tracer indices, 450
RAISING, see *Napping.*
RAMIE (see also *Bast fibers*): cultivation and development, 46
yarn and cloth properties, 95
RAYON (see also *Acetate rayon, Blends, Cellulose, Cellulose triacetate, Tow to yarn, Viscose rayon* and under specific processes)
difficulties in manufacturing ready-made articles, 105
RAYON FABRICS: correlating abrasion testing with wear properties of resin-finished rayon staple fabrics, 495
rayon crepe fabrics, 60
RAYON YARN: determination of yarn count, 122
REELS: for propelling fabric in rope form through a dye beck, P377
thread-advancing reel, P33, P219
REGENERATED FIBERS, see *Man-made fibers, Rayon.*
RESEARCH (see also *Operations research*): economic and technical problems of textile inventions, 547
hosiery research, 548
mill investigations in the wool industry, 258
pulsatory and vibrational phenomena, 367
research institutions in India, 504
role of industrial research, 32
textile research abroad, 547
textile research in 1954, 80
RESIN CURING, see *Drying.*
RESIN FINISHING (see also *Formaldehyde, Silicones* and specific processes as *Flameproofing, Stabilizing,* etc.): P182, P228
amino-resins, 534
cellulose: formalization of fibers, 154
guanamine resins, P278
losses in tensile strength, 250
native cellulose, 534
cotton: percales, 246
three-dimensional colored styles, 251
two resin finished and unfinished fabrics, 246
wash-and-wear, 341
figured effects with resins, P42
jute: effect on wet-strength and water absorption, 484
melamine resins, 303
multi-ply fabric, P559
odor prevention, 250
pattern/permanent mechanical effects, P184
rayon staple: correlating abrasion testing with wear properties, 495
review, 341; 1954, 250
silicone resins: application, 63

RESIN FINISHING (*Continued*)
viscose rayon: effect of various softeners on resin-treated, 155
RETTING: bast fibers, 2; cut ripened linseed flax straw, P549
degumming vegetable fibers, P129
review of the steeping of hemp, 95
REVIEWS, see *Annual reviews* and under specific subjects.
RHEOLOGY: cellulose sheets: role of the hydrogen bond, 500
RIBBON LAPS, see *Laps and lapping.*
ROLLS (see also *Drawing rolls*): design and selection of industrial rolls, 267
maintenace of stainless steel, rubber, and chromium plated rolls, 499
ROPE: fiber cores of steel wire ropes, 232
ROTPROOFING: permanence of dehydroabietylamine, 484
properties of methylated cotton fiber, 270
review of agents, 403
salicylanilides, P558, P559
testing methods, 403
ROVING (see also *Drawing, Uniformity*): empirical formulas and tables for density in relation to lifting rate, 164
end breakages in worsted spinning, 237
high drafting: bulging out of the roving as a cause of irregularity, 390
high-quality: methods and procedures, 6
large package roving, 332
measurement of forces, 470
twisted wool rovings, 163
ROVING MACHINERY (see also *Drawing machinery*): P34
bobbin wheels, P34
checking roving-frame adjustments, 519
checklist for roving frames, 470
control, P220
devices for FS roving frames, 144
photoelectric system, 331
drawing roving of different staple lengths, P35
fault sources: detection and elimination, 430
method of forming roving hydraulically, P129
new Bodden flyer, 190
Saco-Lowell F-5, 332
RUBBER PRODUCTS (see also *Tire cord*): adhesion of rubber to textiles, 341
bonding of yarns to rubber, P463
degradation: importance of metal content of dyes, 114
nonwoven bonded fabrics, 534
nylon in the rubber industry, 5, 47
nylon: treating nylon filament for use in composite rubber structures, P182
treating fabric with layers of rubber, P378
types and uses, 402
RUGS, see *Carpets.*
SAMPLING: sampling plans for inspection by variables, 348
small scale machines: card, draw frame, and loom, 499
SCOURING (see also *Detergents*)
animal fibers: separating from vegetable residues with high frequency currents, P219
effects of alkali, 62
recovery of wool grease, 166, P319, P509
review of 1954, 154
wool, 152, P509, 535; acidic, 171
synthetic detergents, 533
SCREEN PRINTING: acetate, 159
Astrasol process, 255
bronze prints, 117
half-tone, idento- and raster techniques, 255
machines, P230, 256, 347, P379, P380
polyamide fabrics: difficulties, 212
survey, 117
Swiss Text-O-Stat machine, 490
SCREEN PRINTING (*Continued*)
vat dyes, 117
SEAMS (see also *Sewing*): mechanism of fabric failure at the seam, 59
man-made fiber fabrics: seam finishes, 246
seam stability, 245
nylon fabrics: serviceability of various seam finishes, 246
pile floor coverings: continuous seaming, P222
SELVAGES: center selvages, 12
device on circular looms, 12
for straight, elastic and fancy-edged ribbons, 297
heddle frames for mails, P179
looms: inside selvage motion, P225
selvage thread feeding means, P179, P374
supporting and tensioning selvage threads, P177
loop retainer, P134
marking with metallic powders, P132
thread cutter: control, P323
trimming: Vollenweider type WAM machine, 117
SETTING (see also *Stabilizing*): cellulose acetate: tubular knitted fabrics, P377
cellulose fibers: methods and machinery, 441
heat:apparatus, P89
calrod electric unit for nylon, 71
Terylene, 297
woven and knitted Enkalon, 119
nylon and Perlon: differences between hot-air and saturated-steam setting, 409
nylon and Terylene fabrics: using benzyl alcohol, P43
nylon fabrics: literature review, 119
setting and stiffening, P43
review of 1954, 154
stockings, 400
twist: apparatus, P37
basic study, 123
nylon frieze carpet yarn, 535
wool yarns, 290, P553
SEWING (see also *Seams, Sewing thread*): sewing damage on fabrics, 436
sewing machine: spacing element to reduce puckering, P557
welding raw edges of nylon seam, P326
SEWING THREAD: comprising destructible and permanent yarn, P458
problems in production, 432
SHEARING: knitted napped fabric sleeves, P230
SHEDDING: cam shedding, P85; mechanics, 105, 150
effects of shed timing and setting, 434
jacquard: shedding and harness mounting, 527
mechanisms, 241, P553
shed adjustment: reduction of breakages, 434
shuttleless looms: motion, P224
SHEETS: tricot fabrics in fitted bed sheets, 399
serviceability: cotton/viscose staple rayon, 244
SHRINKAGE (see also *Fulling*): apparatus for fabrics and yarns, P138, P425, P557
cloth shrinkage measuring device, 263
knit fabrics: control terminology, 19
multi-ply fabric: bonding and compressive shrinkage, P557
stitched fabric assemblies: compressive shrinkage, P557
Sucaltex shrinking system, 71, 159
testing washing shrinkage, 446
viscose rayon fabrics: effect of warp closeness and picks per inch, 295
wool fabrics: various laundering procedures, 244
fog chambers for continuous shrinking, P376
SHRINKPROOFING (see also *Setting, Stabilizing*): compressive shrinkage blankets, 532
knit fabrics: Holly-set process, 206
Redman method for tubular fabrics, P42
reducing shrinkage in tubular fabrics, P461

SHRINKPROOFING (*Continued*)
mechanically and chemically shrunk twill fabric: tests on weft and warp shrinkage, 439
rayon, 16; viscose rayon, 299
review of patented processes, 438
urea-formaldehyde: stability in presence of various catalysts, 438
thermosetting resin, P462
wool, P42, 155, P228, P424
aqueous dispersion of casein, 403
atmospheric effects in processing, 154
chlorination, P183, P535
permonosulfuric acid treatment, P136
reaction with sulfuryl chloride in presence of alcohols, 403
recent developments, 104
review of progress, 485
wool blends: chlorination, P137
SHUTTLES (see also *Weft mechanisms*): P87, P179, P276, 477; eyelet, P39; tip, P134
adjustable reed cap, P461
binder and mounting, P277
braking mechanisms, 56, P179, 241
check, P134, P421
circular loom, P179, P323
propelling mechanism, P85, P179, P224, P373
circular rotary pirn battery, P85
fur lining, 292
gripper shuttles: gripping devices, P86
transfer mechanism, P86
guard, P86, 106, P461
laminated plastic, P554
large shuttles, 198, 337
machine for rectifying, P178
measuring shuttle speeds, 293, 335
measuring unwinding tension, P133
mechanism for transferring to a return conveyor, P179
photography: determination of shuttle race, 292
propulsion, P38, P86, 105, P460
shuttle box mechanism, P86, P87, P134, P180, 239, P276, 292, P324, 477, P508
survey, 105
swells, P86, 106, P373, P374
tension device, P461
threading: block, P277
hand, P374
self, P179, P508, P554
SILICONES (see also *Chemical aids to processing, Resin finishing*)
colloidal solution: on nylon stockings, P559
synthetic material treated with silica, P137
textile finishing, 17, 251, 439; review, 207
water repellents on cotton, 112
wear resistance: impregnating with silicic acid ester, P228
SILK: causes of yellowing, 428
fibroin: chemistry and structure, 271, 451
spun silk industry, 513
SINGEING: calculations for ventilating singeing machines, 491
SIZING (see also *Desizing, Slashing*)
Ardil blend warps, 434, 526
continuously: an individual thread, P326
cotton: sources of defects, 196
glass fibers, P378
hank-yarn treatment, 335
nylon: sizing agents, P85
nylon yarn: process, P459
observations and problems, 149, 474
rayon yarns: mechanical conditions, 103
properties of starched rayon yarn, 196
size concentration: examination with hand refractometer, 394
size mixing factors, 239
SIZING (*Continued*)
testing methods, 474
uniformity: effect of slow running of machine, 475
SIZING AGENTS (see also *Carboxymethylcellulose, Starch*): 10, P85, P229
alginates, 433
Gaulin homogenization process, 55
linseed oil, 335
nitrile latices, 249
non-starchy: reagent and staining technique, 433
starch: cold water dispersible, P177
effects of some phosphates, 433
tamarind seed pectin, 335, 475
SIZING MACHINERY: factors affecting size absorption, 291
French, Italian, and German, 148
friction clutch, 291
Hibbert unit, with Rapisonic homogenizer, 196
pile fabrics of wool, P424
Ruti sizing machine, 238, 394, 526
warp, P132; automatic winding speed regulation, 256
continuous process, 408
SLASHING (see also *Sizing*)
cotton: with synthetic compounds for reducing stream pollution, 358
discussions, 525
SLASHING MACHINERY (see also *Sizing machinery*): P85, P133, P177, P420
closed cover, P132
non-stop, with automatic doffing device, 149
Saco-Lowell Positrol slasher, 335
variable speed range drives, 55
SLIVER (see also *Carding, Coiling machinery, Drawing, Laps and lapping, Tow to yarn, Uniformity, Yarns*)
cans versus roll formers, 145
condenser for drawing machinery, P35
defective work detector and stop motion, P35
Draftometer, 214
irregularity: relation to can content, 518
rub apron, P506
sliver-controlled circuit maker and breaker, P457
SOAP, see *Detergents*.
SOFTENING AGENTS: P42; Avitone T softener, 205
effect on resin-treated viscose rayon, 155
SOILING (see also *Detergents, Laundering, Washing*)
carpets: mechanism, measurement, and reduction of soiling changes, 450
cotton: review of present knowledge, 169
tracer method for deposition of carbon, 501
detergency measurement: using artificially-soiled cloths, 546
fabrics: technique, through skin contact, 25
whiteness retention by satin and crepe lingerie, 29
fibers: measuring comparative soiling tendencies, 365
soiling of textile materials, 28
suppression of soil redeposition, 269
SPECTROPHOTOMETER (see also *Infra-red*): differential measurements of reflectance, 216
measuring color, 124
SPINDLES: P36, P175, P221, P321, P457
bearing, P371, P417, P507, P551
double twist, P83, P131, 146, P371, P417, P418
drives, P418; Hispano-Suiza direct drive, 430
Grieb clutch for filling spindles, 431
heavy package: self-lubricating system, P371
high-speed, P131; out-of-balance package, P131
lubrication, 9, P84, P371, P417
mountings, P36, P84, P131
mule: bolster bearings, P175
split ring brake assembly, P83
tapes: nylon bonded, 244, 392
tension or guide pulleys, P82
tension device, P457

SPINDLES (*Continued*)
twisting: centrifugal clutch, P84
uptwist: bearings for high-speed, P418
Whitin, 52
winding spindles, P82
wool: Whitin, 194
SPINNING (see also *Balloons, Creels, Doffing, Drawing, Friction, Tow to yarn, Travelers, Uniformity, Waste, Yarn processing*)
colored cotton yarn, 69
controlled balloon spinning, 391
cotton waste, 9
direct spinning, see *Tow to yarn.*
discussion, 233, 520
ends-down, 9, 75, 146, 193, 236, 520
flax: new techniques and machines, 391
yarn and thread finishing processes, 101
flyer: constant yarn tension, 193; high draft, 390
larger packages: problems, 391
liquid suspending medium: forming a spun yarn, P369
McCann pot spinning method, 391
man-made fibers: uniformity, 472
methods, 6
mule: blends, 9; Centralograph in woolen, 431
nomographs for increasing productivity, 361
package profile: theory, 471
quality control, 188
quality improvement by partial combing, 287
rayon carpet staple, 147, 330
ring: double carrier of draft rollers, 99
high draft, 390
woolen ring frame, 101, 146
work study, 102, 430
worsted end breakage/ring versus cap frame, 522
yarn tension, 194
Rotafil: theory and advantages, 101
short spinning processes, see *Tow to yarn.*
single and double creeling, 9, 193
spindles per operative: optimum number, 236
spinning and twisting (book), 289
streakiness of satin: effect of spinning process, 471
Thieron double ring system, 101
wool: cost control, 391
twist, 100
where drafting takes place, 50
worsted: end breakage/different cap and bobbin sizes, 522
ramie tow, 52
study of end breakages, 192
theoretical approach, 391
twist/end breakages, 430
uniformity/end-breakage, 289, 472
Whitin American system, 188
yarn tension study, 237
Zinser calculating disc, 493
SPINNING MACHINERY (see also *Balloons, Bobbins, Cleaning of machinery, Creels, Doffing, Drawing machinery, Spindles, Tension devices, Tow to yarn, Travelers, Uniformity, Waste, Yarn guides*): P36
adapted for man-made fibers, 194
bolster cases, P220
building motions, P81, P82, P83, P84, P551
cap-spinning: modified, P83
clearer for long-draft spinning aprons, P175
continuous: card web into spun yarn, P455
electric device for counting end-breakage, P426
filter box with built-in fan for exhaust, P175
flyer: two-zone high draft, 101
German spinning machinery, 387
Gwaltney spinning frames, 333
jute: stopping devices, P320
long machines from individual sections, P82
SPINNING MACHINERY (*Continued*)
maintenance program, 146; wool frames, 357
mule: P36, 51, 100, 194, 237, P320, P321
Pneumafil waste collecting unit, 392
pot spinning, P36, P221, P418
processing troubles, 392
ring, 147, P175, 193, P370
cotton sliver supply in cans below frame, P418
drive, P220, P221, P418
M.R.2 Platt frame, 147
Meiner's-thread lamp, 521
ring rail, P82, P83, P131
slip measurements on back top drawing rollers, 147
specifying draft, 237
variable-speed mechanism, P131
woolen, 9, 52, 194, 521
worsted: Zinser, Ingolstadt, Rieter, Spinnbau (Perfekt), 51
rings, P82, P221, 237
aluminum, P175
experimental studies, 472
nylon or other plastic, P36
porous material, P551
rough-finished (Japanese), 237
slubbing attachment, 236, 391
speed control devices, P36, P84, P551
spindle driving apparatus, P36, P320, P551
suction apparatus, P84, P131, P175, P320, P321, P551
wet spinning of natural fibers, P131
SPOOLING, see *Winding.*
SQUEEZING EFFECT, see *Drying.*
STABILIZING (see also *Resin finishing, Setting, Shrinkproofing*)
acetate tubular knitted fabrics, P377
acrolein (X-2) for viscose rayon and cotton, 250
cellulose fabrics, P424
dimensional stability to fabrics, P136, 455
pile fabric, P228
polyester fiber fabrics, 537
protein-containing textiles, P510
rayon: Avcoset process, 206, 207
regenerated cellulose, P377, P378
Terylene, 481
STAINS, see *Fabric defects.*
STARCH: viscosity, 355
STARCHING, see *Sizing.*
STATIC ELECTRICITY (see also *Antistatic agents, Chemical aids to processing*)
impact on consumer and processor, 171
measuring methods and apparatus, 30, 31, 273, 274, 314
mechanical charging of fabrics for air filters, 243
mill operations, 30
nature and ionization, 30
problems with textiles, 340
processing of synthetic fibers, 503
review: importance and elimination, 80
synthetic fabrics, 452
worsted mills: electrostatic charges and humidity, 171
STATISTICAL QUALITY CONTROL, see *Quality control.*
STATISTICS (see also *Quality control, Sampling, Testing*)
applications of extreme value methods, 73
design and analysis of industrial experiments (book), 20
design of experiments: replicated factorial analysis, 20
nomographs: direct construction from tables, 73
for significance tests, 212
statistical decision making, 266
"t" tests: significance of difference, 537
STENTERING, see *Tentering.*
STOP-MOTION DEVICES (see also under specific machinery)
feeler device with intermittent contact, P455

STOP-MOTION DEVICES (*Continued*)
multi-spindle machines: interlocking control means, P419
sliver-controlled, P35, P457
strand controlled, P417, P458
warp-stop motion, P132
STREAM POLLUTION, see *Waste treatment.*
STRETCH YARNS: 195, 393, 432
controlling wildness of twisted yarn, P461
lively yarns, crimped yarns, and loop yarns, 523
nylon, 54
stretch and bulk yarns, 290
stretch-sheer for hosiery, P371
STRIPPING: P299; Orlon dyed by cuprous ion technique, 406
Orlon type 42: cationic dyes, 406
wool: cross-linking agent modifies fiber damage, 254
SURFACE ACTIVE AGENTS: absorbency measuring devices, P230
International Congress, 27
table, 450
textile applications, 248
SYNTHETIC FIBERS, see *Man-made fibers.*
TAR SPOTS: two methods of wet processing removal, 156
TEMPERATURE (see also *Heat phenomena*)
distribution in fiber-filled calender bowls, 309
dynamic errors in measurement, 497
effects in wool processing, 298
effect on nylon fiber, 98
processing of flax, 329
static errors of registration, 537
TEMPLES: thread cutter, P554
trough and rollers type, P373
TENSION DEVICES (see also under specific machinery): P37, P82, P176, P458
Brush tension analyzer, 215
characteristics, 123
critical rayon yarn tension: instrument, 123
filling-tension analyzing instrument, 163
HBC thread tension feeler, 215
yarn: disk type, P552
yarn tension compensating device, P419
TENTERING MACHINERY: P560
clip, P380, P464; pin chains and guides, P230
Comasach tenter, 298
converting: from parallel to impact flow type, 257
Famatex tenter, 71
means for creating cross pleats, P380
selvage guide with photoelectric control, 159
weft straightening mechanism, P138
wool, 152
TERLENKA (see also *Polyester fibers*): 386
TERRY FABRICS: German and Austrian looms, 241
loop knitting machine, P462
pile weaving, P421
towel construction, 530
weaving, 397
TERYLENE (see also *Dacron, Polyester fibers*): 187, 387
processing, 233, 386
on worsted and woolen systems, 6, 48
TESTING (see also *Abrasion, Chemical testing, Fabric testing, Fiber testing, Fluorescence, Friction, Inspection, Microscope and microscopy, Quality control, Statistics, Time study, Yarn testing, Weighing* and under specific fibers and processes)
black-and-white method, 119
data handling systems, 349
dynamic strength-measurements, 20
elastic properties by oscillation method, 349
electronic measuring instruments (book), 311
electronics in testing, 503
fatigue tests, 258
how much testing?, 258, 442
TESTING (*Continued*)
instruments, 73
measuring cotton dust in the air, 265
textile quality control papers (book), 317
TEXTILE CHEMICALS (see also *Carboxymethylcellulose, Chemical aids to processing, Detergents, Dyes, Finishes, Formaldehyde, Silicones, Sizing agents, Softening agents, Surface active agents, Textile chemistry*)
chemistry and physical chemistry of textile auxiliaries (book), 247
cyanamide derivatives: review of uses, 28
emulsions in wool processing, 401
new products, 32, 61
organic isocyanates: applications, 169
polyvinylpyrrolidone, 547
sequestering agents, 299
solving trace metal problems, 452
sorbitol: review, 341
survey of trends, 247
TEXTILE CHEMISTRY (see also *Cellulose, Chemical testing, Polymers and polymerization, Radioactive tracers, Textile chemicals,* and specific processes)
annual review of new equipment, 128
basic chemistry of textile preparation (book), 532
chemistry and physical chemistry of textile auxiliaries (book), 247
molecular bonding in finishing processes, 500
sulfonation—sulfation, 28
textiles in 1954, 80
TEXTILE DESIGN, see *Fabric design.*
TEXTILE EDUCATION: 453, 548; earnings of Clemson graduates, 32
textile schools and research abroad, 547
TEXTILE INDUSTRY (see also *Costs, Mill management*)
comparison of Indian mills with Japanese, 356
need for all-round knowledge, 548
point of view of the retail buyer, 548
relation with the chemical industry, 172, 453
textile industry of India, 1854-1954, 504
TEXTILE MACHINERY (see also *Automation* and under specific processes)
Brussels Exhibition, 368, 454, 504, 547
case history reports, 128
cotton: new German machines, 98
spinning machinery innovations, 468
electric device: counting thread breakages, P426
government-owned inventions for license, 32
jute: preparation and weaving, 148
processing machinery developments, 267
machine stops: instrument counting frequencies and duration, 160
new products review, 32, 128, 267, 547
preventive maintenance control, 268
reduction gears, 357
small scale sampling machines, 499
Speedotex: measuring yarn and rotational speeds, 311
Swiss textile machines, 357
what mill men are looking for, 545
TEXTILE NUCLEONICS:
effects of radiation on: strength of yarns, 503
30 different synthetic fibers, 171
wool fiber, 327
TEXTURED YARNS: 385, 432
Ban-Lon yarns, 522
bulked yarn problems, 474
continuous superpolyamide loop-yarn, 53
filaments: process for giving increased bulk, P220
Helanca process and Koechlin formula, 352
lively, crimped, and loop yarns, 523
process for rough surfaced filaments, P33
stretch and bulk yarns, 290
Taslan, 474

THERMAL PHENOMENA, see *Heat phenomena, Temperature.*
THERMOVYL (see also *Vinyl fibers*): 96
THREAD, see *Yarn products, Yarns.*
THROWING, see *Twisting.*
TIME STUDY: analytical method worker training, 356
bath towel cutting, 545
braiding department, 167
cardroom, 190
creeling at the ring frame, 416
forms for calculating frequency of periodic work duties, 356
machine interference, 26, 127, 266, 356, 544
optimum number of spindles per operative, 236
pirn winding, 498
ring spinning, 102, 430
warping, 434
weaving, 337; workloads for weavers, 528
work study administrative procedures, 127
yarn winding, 266
TINTING, see *Fugitive tinting.*
TIRE CORD: AKU twist irregularity meter, 414
beating test: pendulum-type impact tester, 413
effect of finish, 147, 393
electronic tensioning and gum-dipping equipment, 204
internal friction, 272
man-made fibers, 4, 47
nylon: latexing and hot-stretching, 302
stabilizer that pre-treats and removes excess stretch, 204
rayon: alternating tensile stress for improving strength, P91
tenacity: improvement by additional twist of moist yarn, P320
tensioning means, P371
TOPS, see *Tow to yarn.*
TORAMOMEN (see also *Viscose rayon*): 96
TOW TO YARN (see also *Cutting machinery, Spinning*): P551
can spinning system, 53, 100, 471
direct spinning apparatus, P83
high draft abbreviated spinning processes, 191, 287, 471
O-M Japanese cotton spinning frame, 289
Pacific converter, P275, 330
Pfenningsberg super high draft system, 53
RSK ring frame with creel for sliver cans, 53
short spinning processes, 471
sliver to yarn, P129. P371
Stains system, 53
staple puller, P129
straggling nylon problems, 233
tow to sliver, P173
two tow-opening machines (man-made fibers), 234
TRAVELERS: 237, 472, 473
automatic mounting device, 473
enabling a larger diameter of package, P370
influence of weight in ring spinning, 521
nylon or other plastic, P36
synthetic resin, P175
for vertical doubling ring having at least one square end, P551
for vertical sintered-metal doubling rings, P417
TUFTED FABRICS (see also *Carpets*): manufacture, P376
tufted textile industry, 368
TUFTON (see also *Viscose rayon*): in carpets, 96
TWIST (see also *Crimping, Setting*)
AKU twist irregularity meter for tire cord, 414
effect of direction of yarn twist and twill on properties of woven cloth, 530
effect on: dimensional changes, 148, 195
fabric crease resistance, 339
product life, 474, 523
strength, 10, 53, 102
TWIST (*Continued*)
false: yarn twister for applying, P551
false twist crimping of nylon, 289
fiber: effect on optical diffraction patterns, 465
Helanca process and Koechlin formula, 352
improvement of tenacity of tire cord, P320
influence on yarns, 53
low twist yarns, 102; unwinding faults, 431
minimum twist during preparatory processes, 523
optical measurement, 262
optimum twist: multifilament Perlon yarn, 524
over-end, 238; effects of over-end winding, 334
mixture fabric knitted effects, 195
supertwist: nylon filament and abrasion resistance, 531
test method: twist in yarn removed from fabric, 264
twist direction finder, P464
twist in woolen ring spinning, 100, 237, 288, 393
twist loss, 52
variations between and within bobbins, 195
TWISTING: 392; downtwisting zero twist acetate, 522
how to throw Dacron for tricot knitting, 55
nylon yarn, P553
spinning and twisting (book), 289
TWISTING-IN, see *Warping.*
TWISTING MACHINERY: P82, P84, P175, P221, P371, P418, P419, P550
device for indicating yarn failure, P550
double-twist: tensioning device, P507
drive, P457
equalizing speed of yarns, P130
false twist: yarn twister, P551
flax, 53
multiple twist: flier, P458
novelty: duplex splash attachment, 146
nullifying residual twists of cables, P419
ring twisting frames, P370
traversing yarn guides, P371
twist variations between and within bobbins, 195
two-for-one twisters, 52, P222
uptwisters: expansible mandrel, P83
Whitin Spoolmatic redraw doubler, 522
ULTRASONICS: Minisonic self-contained homogenizer, 436
to separate ramie fibers, 281
tanning and dyeing, 536
ULTRAVIOLET LIGHT, see *Fluorescence.*
UNIFORMITY (see also *Electronic equipment*): 470
fabrics: effect of yarn irregularity on fabric appearance, 76
measurement, 497
photoelectric colorimeter, 353
picker laps, 330, 413, 429
Brush tester, 22
continuous testing, 413
Ingolstadt lap tester, 261
moisture indicator on picker, 6
testing, 22, P44, P426
relation between variation of density and thickness of slivers, rovings and yarns, 103
relationships between the variations in weight, cohesive power and cross sections of slubbing from wool and staple fiber, 8
roving: bulging out of the roving in high drafting, 390
effect of drafting, 519
sliver: consequences of non-uniform drawing sliver, 387
evaluation of measurements, 23
irregularity of card sliver related to can content, 518
regularity tester (Textronograph), 76
testing, 286
variation caused by carding, 429
sources of irregularity, 76
cotton drafting, 470

UNIFORMITY (*Continued*)
doubling of slivers and ribbon laps, 162
doubling of uneven intermediate products, 144
electric card balance: effect on roving, 75
evaluating processing efficiency from yarn variance-length curves, 540
14 causes of uneven yarn, 102
leveling effect of ideal drafting, 519
Kepa draw frame, 390
rayon: eccentric rollers, 99
sliver and ribbon lapping, 8
spinning man-made fibers, 472
worsted-top, 48
yarn: control in the AKU spun rayon yarn experimental mills, 261
determination on the basis of random fiber arrangement, 76
faults of jute yarn, 102
medium- and long-term variations of a yarn, 350, 351
yarn irregularity fabric picture recorder, 24
yarn testing: apparatus, P44, 493
computing autocorrelation functions, 412
cutting and weighing, 164
direct measurements on spinning machines, 443
electronic: continuous filament yarns, 75
evaluating evenness record graphs, P230
evaluation and comparison of testers, 444
factors affecting change in capacity of parallel-plate condenser, 444
Frenzel-Hahn tester, 164
harmonic analysis, 215
mechanical tester Grafotex, 23
Pacific integrator, 314
photoelectric measurement of irregularity and hairiness of worsted yarn, 122
Sigma tester, 76
Spectrograph attachment for Uster tester, 23
Swiss specification, 163
SY tester, 261
Uster tester, 215, 216, 444
variance length curve in measuring filament, 261
Viviani apparatus, 494
wave length spectrum analysis, 315, 443
weighing different lengths of Indian yarn, 23
UNWOVEN FABRICS, see *Nonwoven fabrics.*
VINYL FIBERS (see also *Copolymer fibers, Thermovyl, Vinylon*)
data: polyvinyl chloride fibers, 187, 387
PeCe fiber: properties and processing, 466
VINYLON: 47, 97; Vinylon/viscose suit, 48
VISCOSE RAYON (see also *Toramomen, Tufton*)
cellulose/formaldehyde reaction: influence on mechanical properties, 467
chemical changes after prolonged wear tests, 77
effect of high temperatures in aqueous medium in the absence of air, 187
electrical resistance at low temperatures, 467
microscopical study of fine structure, 516
moisture absorption: effect of high temperature treatments, 142
skin and core, 233
vinyl polymers deposited inside viscose rayon filaments: staining, swelling, and stiffness characteristics, 364
WARPING (see also *Sizing*)
calculating the warp length, 11, 148; warp-beam diameter, 148
colored warps: method for the large-scale preparation, 394
discussion of questions, 233
history, 291
large number of repeats: method, 11
large pattern warps, 291
WARPING (*Continued*)
piecing the warp ends of a beam to the ends of another beam, P37, P459
sectional warping on the large roller, 475
tangled warps, 149
work study, 434
WARPING MACHINERY (see also *Creels, Slashing machinery*)
beam, P222, P553
beaming machines, P37, P222
high speed, P37
Holt heavy duty, 433
type D beaming headstock, 238
variable-speed driving mechanism, P459
warp beam truck, P222
braking the warp beam on looms, P38
different widths of warp: means for adjustment, P372
drawing-in machine, P420; worm, P85
end-to-end leased warp: separating threads, P321
frame, P223
French warper and creel, 526
German rayon warping machinery, 526
Gusken high-speed sectional warping machine, 103
history in Great Britain, 476
leaser, P276; sectional warps, 10, 334
re-equipping a weaving preparation section, 433
Ruti sectional warper and vacuum creel, 291
Sailer model SS sectional warpers, 149
Schlafhorst warping and beaming equipment, 55
sectional: vertically-adjusted guide reed, P176
tensiometers for warps, P176
ZaSe sectional warper, 54
WASHFASTNESS: dye-fixation: acetate-rayon and acetate-rayon-nylon blends, 66
dyeings: improving, P183
WASHING (see also *Detergents, Laundering, Scouring, Soiling, Washing machinery*)
resistance to washing: effect of chemical degradation, 447
special washing problems, 113
wash effect as a function of the time, 171
washing process: apparent and real effect on condition of fabric, 354
carboxymethylcellulose, 404
electronmicroscopic observation, 29, 170
preparation of staple fibers, P33
WASHING MACHINERY: centrifugal removal of liquid from fabric, P380
Niagara continuous rope washing machine, 63
range for continuous washing, P510
WASTE (see also *Cleaning of machinery* and specific machinery and processes)
cotton waste: canvas bag method of removing trash extracted by the Shirley opener, 49
cotton waste industry, 330
opening room machinery waste tests in 40 mills, 189
sources, classes and uses, 218
spinning of cotton waste, 9
system of control for a mill, 449
finishing: recovery of bleaching, scouring, tin weighting, and mercerizing wastes, 204
formulas for waste standards, 361
handling reworkable waste, 79, 362
reducing unnecessary fiber waste, 362
waste-control program, 168, 500
wool: determination of vegetable matter in woolly burr removed at the card, 355
in the woolen industry, 79
WASTE TREATMENT: BOD of 154 textile chemicals, 358
BOD of synthetic detergents: relation to chemical structure, 499
biological percolating filter with recirculation, 358
biological treatment of mixtures of highly alkaline

WASTE TREATMENT (*Continued*)
textile mill waste and sewage, 360
bleachery and dyehouse waste studies, 360
cotton bleaching and sizing wastes, 166
cotton slashing with synthetic compounds for reducing stream pollution, 358
flue gas treatment for highly alkaline dye wastes, 267
literature of 1954 on sewage, waste treatment, water pollution, 359
methods of textile waste treatment: bibliography, 218
relation of federal stream-pollution laws to industry, 359
textile-waste treatment in Texas, 358
wool processing industry: industrial waste guide, 499
WATER ABSORBENCY: measuring devices, P230
WATER POLLUTION, see *Waste treatment.*
WATER-REPELLING, see *Waterproofing.*
WATER RESISTANCE: Bundesmann testing, 446, 447
diffusion of water vapor through laminae, 202
WATERPROOFING, P228; absorptive fabrics: uniformly applying, P228
cellulose fabrics, P376
coatings, P90, P377
cotton fabrics in children's play clothing, 247
Enkalon, 404
finishes, P43, P424, P558, P560
one-bath impregnation, 16, 300, 301
permanent to weathering and laundering, 16
processes, P43, 112, P378
review, 16, 17, 62; testing methods, 16
with silicon compounds, P43, 112
WEAR, see *Abrasion, Deterioration of materials* and specific subjects as *Clothing, Fabrics, etc.*
WEATHERPROOFING, P42; permanence of dehydroabietylamine, 484
WEAVES, see *Fabric design.*
WEAVING (see also *Carpets, Fabric design, Looms, Narrow fabrics, Pile fabrics, Selvages*): P39
beating-up: theory of behavior of warp and weft yarns, 528
cover: methods of obtaining, 397; theory, 435
damask, 435
discussions, 525
Enkalon, 104
jute and linen: warp let-off arrangements, 105
large shuttle versus automatic weaving, 198
loom-stop analysis, 396
man-made fibers and blends: preparation and weaving, 241, 527
measurements on the loom, 295, 397
new developments, 290
pick-pick weaving: special method, 200
print cloth and corduroy: mill efficiency, 199
productivity: and warp breakage, 478
higher in cotton and rayon weaving, 416
increasing on basis of theory of yarn strength, 294
quality control, 197
reed adjustment and reduction of breakages, 293
Stroboloom for studying shuttle movement, etc., 528
terminology: Danish, English, German, French, 200
testing: yarn resistance to breaking on the loom, 313, 528
warp tension, 293; and cloth control, 435
dynamic tension in plain cotton weaving, 198
measurements and stroboscopic tests for determining shuttle motion, 199
warp yarn breakages: causes during weaving, 395
weavability: dynamic warp yarn-break test for predicting, 528
graphs, 198, 241
practical loom experience on limits, 531
weave diagram, 242
weaving defects, 293, 398
bad cover of face, 435
WEAVING (*Continued*)
causes of kinky filling, 241
causes of quill break-outs, 337
crushed weft and its causes, 198
Diessner recorder, 57
eliminating scattered cloth defects, 476
filament yarns on high-speed looms, 528
harness skips, 478
how to reduce set marks, 528
microscope attachment for elimination of starting places, 239
weft-way contraction: avoiding, P553
woolen weaving: automatic, 55
work study, 337
workloads for weavers, 528
WEAVING MACHINERY, see *Looms.*
WEFT MECHANISMS (see also *Shuttles*): P133, P374
attachment which eliminates pirns and cops, 479
circular looms: weft threads carrying device, P421
cutters, P86, P87, P553
detector, 478
feelers, P179, P224, P276, P422
parting and clamping mechanism, P179, P322
Riley continuous weft supply method, 434
separation of wefts in box looms, P133, P322, P420
shuttleless looms: filling carrier, P224
trapping mechanism, P224
stop motions: P180, P322; circular loom, P322; shuttleless looms, P224
weft supply motions: four-color, 434
weft yarn renewal: automatic, P322, P323, P553
WEIGHING: fiber feeding and weighing machine, P34
hopper: snubber device, P549
lap weighing scales, P369
machine to weigh wool stock prior to oiling, 284
webs of flexible fibrous material, P319
WINDING (see also *Knots and knotting*)
bad transfers and defects in quilling, 392
blow-off cone winding controller, 412
coefficient of friction: yarn/package, 215
cop volume and determination of density, 333
history, 291
large package: nylon, Dacron, and perlon yarn, 392
multilayer yarn package, P131
precision cross winding: rayon and synthetic warp yarns, 392
rewinding and requilling filling yarn, 11
rewinding warp yarn: high speeds, 475
time studies on yarn winding, 266
unwinding faults: low twist filament rayon yarns, 431
work studies in pirn winding, 498
yarns for wet processing, 109
WINDING MACHINERY (see also *Bobbins, Spindles, Tension devices, Twisting machinery*): P37, P84, P131, P176, P177, P221, P370, P371, P419, P457, P458, P550
Arunco winding and doubling machinery, 52
automatic knot-tying and supply-bobbin changing mechanism, P372
bobbin winding: P84, P132, P175, P372, P458, P459, P507
cheese-winding machines for synthetic yarns, 55, 197
cone winding: cross-winding, 476
preventing pattern winding, P552
cop winding, P82, P373, P459, P507
cross-winding, P132
cross-winding machine, KEK-PN monofil coner, 522
detecting yarn failure, P417, P418, P507
early cotton winding machines, 527
filling winders, 100, P372
flax, 194, 392
friction: guiding device for elimination, 527
guides, P83, P459
history in Great Britain, 476

WINDING MACHINERY (*Continued*)
pirn winding: P132, P176, P321
behavior of yarn tensioners, 395
evolution of the pirn winder, 283
regulating tensions, P176, P373
removing thread end from spool, P373
Sahm Mikromat, 55
speed regulation: P37; during warp sizing, 526
spoolers, P222
stop motion devices, P85, 144, P221
supporting hanks, P85
supporting hollow cakes of processed synthetic yarn, P419
with tail looping eliminator, P418
traverse devices, P131, P371, P373, P419
unwinding from beam, 11
unwinding imperfectly wound bobbins, P417
upright, spindle type, P417, P418
web-winding machine, P507
Whitin quiller, 431
WOLCRYLON (see also *Acrylic fibers*): 48, 329
WOOL: chemistry and physics (book), 3
future, 45
practical textile chemistry of wool (book), 513
processing (through combing), 188
productivity in woolen industry, 103
WOOL, CHEMICALLY MODIFIED: beta-propiolactone, P455; control of static electricity, P463
evaluating: using papain-bisulfite-urea, 427
general discussion, 511
iodination of the tyrosine side-chains of wool, 502
microbiologically resistant, 141
polyacrylonitrile: mechanism of reaction, 363
wool protein free of disulfide cross-links, 514
WOOL FABRICS (see also *Felt*)
blending woolen and worsted by weave and color, 107
combining two or more counts and qualities, 107
overcoatings, 400
planning finished wool fabrics, 10
WOOL FIBERS (see also *Keratin*)
acid-treated: interaction with water vapor and water, 328
adsorption of primary alcohols, 363
amino acid composition, 232
boiling in aqueous solutions: effect, 364
bulk compression characteristics, 428, 514
crimped: initial resistance to extension, 46
crystalline/amorphous ratio: determination, 384, 385
friction: differential, 282
Merino wool: fiber form and staple crimp, 3
nuclear radiation: effect, 327
nutritional plane: effect on wool follicle development, 514
oxidized: structure of resistant membranes, 186
physical properties: as affected by sulfur in the diet, 186
plasticity, 466
reaction with sulfuryl chloride in the presence of alcohols, 403
reactions with N-halogenoamines: mechanism, 364
Scottish blackface sheep: fleece types, 47
staple character related to thickness, 385
stress relaxation, 327
structure correlated with properties, 3
tensile behavior: effect of cross-sectional nonuniformity, 232
tensile properties, 95, 385
Turkish wools: physical properties, 384
wool gelatin: isolation of acid peptides, 502
WOOL TESTING: bilateral structure: differential dyeing as an indicator, 259
bulk compression: measuring, 514
density gradient resolution of cortical cell fractions, 539
WOOL TESTING (*Continued*)
diameter: effect of oil on results of air-flow method, 74
ether-soluble extract of wool, 259, 260, 363
hairiness: measurement, 120
oil extraction apparatus, 73
staining tests to trace damage in processing, 25
vegetable matter: determination in woolly burr removed at the card, 355
WOOL YARN: coefficient of hairiness, 122
colored worsted mixture yarns, 195
comparison of mule and frame-spun yarns, 333
gimp, spiral and knop types, 195
novel twist effects, 238
photoelectric measurement of the irregularity and hairiness of worsted yarn, 122
wool carding attachment for novelty effects, 525
WRINKLEPROOFING: cellulosic fabrics: mechanism, 534
melamine resins: newly developed accelerator, 64
providing wrinkles in textile fabrics, P43
X-RAY: aids to x-ray fiber photography, 310
fiber research, 21, 213, 413
small particle x-ray scattering by fibers, 313, 503
YARN CLEARERS (see also specific machinery): P132, 197, P222, P372, P459, P507, P552
counting or removing faults during winding, P222
slub catcher, P82, P552
YARN GUIDES (see also specific machinery): P37, P129, 289
nylon yarn: measurement of kinetic coefficients of friction, 163
YARN IMPERFECTIONS (see also *Neps*)
causes in colored yarn spinning, 48
counting or removing faults during winding, P222
seedcoat fragments in cotton, 383
slub counting device, P44
YARN NUMBERING: international numbering, 164
simplification, 262
Tex-system: balance for determination of yarn numbers, 74
YARN PACKAGES, see under *Bobbins, Winding* and various processes.
YARN PROCESSING (see also *Applicators, Chemical aids to processing, Knots and knotting, Stop motion devices, Textured yarns, Tow to yarn, Yarn clearers, Yarns* and specific processes)
binding skeins: process, P173
coating rubber impregnated yarns with paraffin, P41
electrostatic method: forming fibrous material into a strand, P369
facts about yarn carriers, 333
forming a spun yarn from fibrous elements in a liquid suspending medium, P369
liquid treatment apparatus, P41, P181, P222, P278, P321, P377, P378, P559, P560
controlling amount of agent by vibration, P462
countercurrent treatment, P559
lacing guide, P510
thread-advancing reel, P277
tow of filaments, P90, P424
tows in tubes, P559
man-made yarn processing machinery development, 197
package supports, P138, P219, P377
packaging: hanks of yarn, P552
paying out and delivering parallel lengths of thread, P173
preparatory machinery for weaving (book), 291
process for yarns of stiff hair or synthetic filaments unfit for spinning, P129
rounding: sized rayon yarn flattened by mangling, P419
stretching: nylon using two systems of rollers, P33
stretching: wetted cords or yarns, P419

YARN PROCESSING (*Continued*)
thread stripping guide, P37
threading-in: method and apparatus of artificial threads, P377
tubular coil yarn processor, P424
YARN PRODUCTS (see also *Cordage, Parachutes, Rope, Sewing thread, Tire cord*)
strings of thermo-plastic filaments, P371
YARN TESTING (see also *Abrasion, Friction, Neps, Uniformity, Yarn numbering* and specific fibers)
blow-off cone winding controller, 412
continuous yarn testing, 24, 75
count of yarn removed from fabric, 264
damaged filaments in yarn: apparatus, P92
diameter, P138, 314, 353
dynamic tensile mechanical properties, 194, 352
electrical charge during processing: apparatus, 314
electronic dynamometer, 494, 540
fatigue, 311, 494
German equipment, 212
lea strength test, 123
load-deformation properties: electric inductance gauge apparatus, 311
method of re-examining an already tested yarn to determine processing stresses, 494
moisture content of one running rayon thread: electronic measurement, 75
nomogram for calculation of nominal yarn strength basis of fiber tests, 414, 540
rapid impact loading: stress-strain relationships, 351
resistance to breaking on the loom: apparatus, 313
speeds: Speedotex for yarn and rotational speeds, 311
stiffness: filament yarns, 414
YARN TESTING (*Continued*)
tensile strength, 123, 413; rovings, P138
testers, 314, P426
Zweigle tester, 352
tension apparatus, 122, 352; Brush, 215; Zivy, 313
voluminosity test, 413
weights of warp and weft per unit area of cloth, 264
Zinser calculating disc for spinning, 493
YARNS (see also *Abrasion, Blends, Fiber:yarn:fabric relationships, Friction, Knots and knotting, Metallic yarns, Roving, Sliver, Stretch yarns, Textured yarns, Twist, Uniformity, Yarn numbering, Yarn products* and specific fibers)
crepe, crimp and crinkled yarns, 431, P458
Delwin: Canadian multiple-core yarn, 474
effects of nuclear radiation on strength, 503
fancy effects, 10
fiber arrangement, 524
flake yarn: new method, 97
paper yarn: manufacture, 431
over-end twist: mixture fabric knitted effects, 195
rapid impact loading: stress-strain relationships, 444, 524
slub yarns, 236, 391
statistics of ideal random blended yarn, 473
Tek-Ja bonded no-twist yarn, 10, 148, 196, 290, 393
tensile properties of staple yarns, 522
textile fabric album (book), 243
theory on distribution of yarn strength, 103
twist yarns: wool and rayon, 54
water-soluble yarn, P458
wrapped elastic yarn: silicone rubber core, P507

U. S. P
23 95
24 00
2 690 67
2 692 63
2 694 22
2 694 23
2 694 30
2 694 30
2 694 30
2 694 30
2 694 30
2 694 30
2 694 30
2 694 31
2 694 37
2 694 41
2 694 41
2 694 44
2 694 68
2 694 83
2 694 83
2 694 83
2 694 83
2 694 83
2 694 84
2 694 89
2 694 90
2 694 90
2 694 90
2 694 91
2 694 91
2 694 91
2 694 91
2 695 03
2 695 13
2 695 24
2 695 24
2 695 25
2 695 27
2 695 42
2 695 42
2 695 43
2 695 43
2 695 44
2 695 44
2 695 50
2 695 50
2 695 63
2 695 63
2 695 65
2 695 75
2 695 75
2 695 83
2 695 83
2 695 83
2 695 89
2 696 02
2 696 03
2 696 05
2 696 09
2 696 09
2 696 09
2 696 09
2 696 09
2 696 18
2 696 22
2 696 22
2 696 22
2 696 22
2 696 42
2 696 44
2 696 44
2 696 44
2 696 63
2 696 64
2 696 65
2 696 65
2 696 67
2 696 70
2 696 72
2 696 72
2 696 72

VOLUME

PATENT INDEX

January–December, 1955

U. S. PATENTS

23 952 177
24 007 325
2 690 679 173
2 692 635 173
2 694 229 34
2 694 230 36
2 694 301 40
2 694 302 40
2 694 303 37
2 694 304 39
2 694 305 40
2 694 307 43
2 694 308 41
2 694 311 44
2 694 374 41
2 694 416 39
2 694 417 38
2 694 448 33
2 694 688 41
2 694 832 33
2 694 833 34
2 694 836 34
2 694 837 35
2 694 838 35
2 694 848 37
2 694 896 37
2 694 907 40
2 694 908 40
2 694 909 40
2 694 911 40
2 694 912 41
2 694 913 37
2 694 915 37
2 695 039 39
2 695 138 37
2 695 243 42
2 695 244 43
2 695 250 42
2 695 270 41
2 695 428 35
2 695 429 35
2 695 438 44
2 695 439 39
2 695 440 38
2 695 441 41
2 695 505 40
2 695 509 37
2 695 634 41
2 695 635 39
2 695 653 43
2 695 756 33
2 695 757 37
2 695 832 43
2 695 833 42
2 695 835 33
2 695 895 42
2 696 026 35
2 696 034 44
2 696 055 44
2 696 093 40
2 696 094 40
2 696 095 40
2 696 096 40
2 696 098 44
2 696 181 41
2 696 222 38
2 696 223 39
2 696 224 39
2 696 225 38
2 696 421 43
2 696 444 42
2 696 445 41
2 696 448 43
2 696 638 91
2 696 643 81
2 696 653 85
2 696 654 85
2 696 678 91
2 696 707 84
2 696 720 88
2 696 721 88
2 696 722 88
2 696 723 89
2 696 736 92
2 696 836 86
2 696 837 87
2 696 838 87
2 696 839 87
2 696 840 87
2 696 841 87
2 696 842 87
2 696 843 87
2 696 844 87
2 696 845 87
2 696 846 87
2 696 847 89
2 696 901 84
2 697 022 90
2 697 056 89
2 697 265 91
2 697 267 81
2 697 336 88
2 697 337 88
2 697 338 88
2 697 453 87
2 697 454 87
2 697 560 84
2 697 561 84
2 697 565 84
2 697 672 85
2 697 678 89
2 697 906 84
2 697 923 88
2 697 924 88
2 698 009 89
2 698 032 86
2 698 044 89
2 698 045 89
2 698 218 91
2 698 263 90
2 698 264 90
2 698 271 89
2 698 418 92
2 698 465 81
2 698 476 91
2 698 488 91
2 698 489 91
2 698 530 88
2 698 531 88
2 698 532 88
2 698 533 88
2 698 538 92
2 698 574 90
2 698 634 87
2 698 659 85
2 698 720 84
2 698 772 84
2 698 816 90
2 698 970 129
2 698 971 129
2 698 972 129
2 698 982 132
2 698 983 132
2 698 984 132
2 698 985 133
2 699 032 131
2 699 033 131
2 699 051 135
2 699 052 135
2 699 053 134
2 699 183 134
2 699 184 134
2 699 185 134
2 699 186 134
2 699 187 134
2 699 373 137
2 699 374 136
2 699 410 137
2 699 577 130
2 699 592 136
2 699 593 136
2 699 658 134
2 699 674 135
2 699 701 135
2 699 866 131
2 699 905 129
2 700 001 136
2 700 187 129
2 700 188 132
2 700 189 130
2 700 190 130
2 700 202 136
2 700 203 132
2 700 204 132
2 700 205 135
2 700 226 184
2 700 285 135
2 700 398 133
2 700 399 134
2 700 400 134
2 700 401 136
2 700 543 135
2 700 589 137
2 700 608 129
2 700 797 370
2 700 866 369
2 700 879 135
2 700 880 132
2 700 881 134
2 700 883 137
2 700 990 133
2 701 108 131
2 701 170 131
2 701 178 136
2 701 218 137
2 701 405 138
2 701 406 136
2 701 409 134
2 701 457 134
2 701 460 137
2 701 585 133
2 701 586 134
2 701 587 133
2 701 689 131
2 701 715 138
2 701 717 138
2 701 907 179
2 701 962 184
2 701 980 184
2 702 054 179
2 702 055 179
2 702 056 181
2 702 069 176
2 702 164 175
2 702 167 176
2 702 177 174
2 702 228 182
2 702 257 181
2 702 283 182
2 702 426 173
2 702 462 180
2 702 463 181
2 702 464 183
2 702 566 180
2 702 675 177
2 702 737 183
2 702 759 182
2 702 764 181
2 702 933 181
2 702 934 177
2 702 948 184
2 703 386 184
2 703 438 173
2 703 439 174
2 703 440 175
2 703 441 181
2 703 587 179
2 703 588 180
2 703 589 180
2 703 590 179
2 703 591 180
2 703 669 177
2 703 776 182
2 703 933 230
2 703 958 221
2 703 970 226
2 703 971 226
2 704 091 226
2 704 393 221
2 704 430 220
2 704 445 226
2 704 510 230
2 704 557 225
2 704 558 225
2 704 559 225
2 704 600 219
2 704 633 230
2 704 638 222
2 704 642 222
2 704 643 222
2 704 729 228
2 704 730 227
2 704 731 228
2 704 734 226
2 704 863 220
2 704 877 230
2 704 946 221
2 704 958 222
2 705 022 225
2 705 023 225
2 705 024 225
2 705 025 225
2 705 026 224
2 705 110 221
2 705 205 229
2 705 347 219
2 705 348 220
2 705 361 223
2 705 362 221
2 705 395 221
2 705 408 225
2 705 409 226
2 705 410 226
2 705 411 226
2 705 423 230
2 705 465 226
2 705 504 224
2 705 505 225
2 705 506 224
2 705 507 224
2 705 508 224
2 705 557 275
2 705 598 222
2 705 668 230
2 705 682 230
2 705 683 227
2 705 686 226
2 705 687 227
2 705 688 227
2 705 692 227
2 705 693 222
2 705 817 220
2 705 818 220
2 705 827 219
2 705 878 225
2 705 879 226
2 705 880 228
2 705 881 222
2 705 974 225
2 705 975 224
2 705 976 224
2 705 977 225
2 706 035 219
2 706 056 222
2 706 089 219
2 706 090 221
2 706 094 227
2 706 142 229
2 706 143 228
2 706 324 277
2 706 377 275
2 706 391 278
2 706 403 278
2 706 500 276
2 706 690 278
2 706 699 277
2 706 718 278
2 706 834 275
2 706 845 278
2 706 846 276
2 706 898 277
2 706 963 277
2 707 158 278
2 707 160 278
2 707 316 276

2 707 317 276
2 707 367 275
2 707 369 275
2 707 382 278
2 707 383 278
2 707 384 277
2 707 495 276
2 707 496 276
2 707 497 276
2 707 498 276
2 707 499 277
2 707 668 278
2 707 690 277
2 707 806 275
2 707 807 275
2 707 815 278
2 707 872 277
2 707 873 277
2 707 973 276
2 707 974 277
2 707 975 277
2 707 976 276
2 707 977 276
2 708 066 275
2 708 290 320
2 708 303 321
2 708 336 321
2 708 355 324
2 708 455 323
2 708 456 323
2 708 457 325
2 708 458 325
2 708 642 378
2 708 784 380
2 708 794 426
2 708 829 321
2 708 837 324
2 708 838 324
2 708 839 324
2 708 840 324
2 708 841 324
2 708 843 378
2 709 141 378
2 709 216 325
2 709 270 378
2 709 281 319
2 709 282 319
2 709 350 324
2 709 351 324
2 709 352 324
2 709 353 324
2 709 457 323
2 709 458 323
2 709 459 323
2 709 460 325
2 709 461 325
2 709 475 378
2 709 523 319
2 709 638 378
2 709 665 378
2 709 856 426
2 709 906 325
2 710 028 323
2 710 029 324
2 710 030 324
2 710 155 322
2 710 269 378
2 710 275 378
2 710 428 371
2 710 429 369
2 710 438 372
2 710 440 372
2 710 500 370
2 710 525 375
2 710 526 375
2 710 527 375
2 710 528 375
2 710 529 375
2 710 530 375
2 710 531 375
2 710 631 374
2 710 816 378
2 710 992 376
2 711 090 375
2 711 091 375
2 711 092 375
2 711 093 375
2 711 094 375
2 711 116 374
2 711 168 375
2 711 192 374
2 711 193 374
2 711 562 370
2 711 563 370
2 711 591 426
2 711 626 369
2 711 627 371
2 711 777 376
2 711 859 371
2 712 162 369
2 712 163 370
2 712 170 376
2 712 171 372
2 712 213 372
2 712 214 371
2 712 225 375
2 712 226 376
2 712 227 376
2 712 263 371
2 712 327 374
2 712 328 374
2 712 509 378
2 712 674 455
2 712 675 455
2 712 676 417
2 712 681 425
2 712 682 425
2 712 683 424
2 712 743 422
2 712 744 422
2 712 755 422
2 712 832 420
2 712 833 421
2 712 834 423
2 712 843 423
2 712 906 419
2 712 907 425
2 712 909 417
2 712 977 424
2 713 008 424
2 713 012 423
2 713 182 456
2 713 191 425
2 713 192 420
2 713 193 423
2 713 209 426
2 713 242 419
2 713 254 422
2 713 353 421
2 713 354 421
2 713 355 421
2 713 356 421
2 713 357 421
2 713 358 421
2 713 359 423
2 713 360 423
2 713 361 423
2 713 370 423
2 713 701 456
2 713 783 422
2 713 784 424
2 713 875 421
2 713 876 460
2 713 877 423
2 713 979 419
2 713 980 419
2 714 051 424
2 714 078 424
2 714 228 456
2 714 229 457
2 714 240 420
2 714 282 419
2 714 297 422
2 714 298 422
2 714 307 464
2 714 328 426
2 714 371 421
2 714 396 421
2 714 397 421
2 714 398 421
2 714 399 421
2 714 400 421
2 714 401 422
2 714 402 422
2 714 403 422
2 714 404 422
2 714 405 423
2 714 491 419
2 714 494 419
2 714 549 424
2 714 569 419
2 714 571 425
2 714 756 461
2 714 757 461
2 714 758 458
2 714 797 458
2 714 811 461
2 714 812 461
2 714 901 460
2 714 902 462
2 715 074 462
2 715 078 462
2 715 079 462
2 715 308 458
2 715 309 458
2 715 327 461
2 715 328 461
2 715 382 464
2 715 421 460
2 715 422 460
2 715 423 460
2 715 505 458
2 715 585 463
2 715 587 463
2 715 588 463
2 715 590 459
2 715 592 463
2 715 754 457
2 715 762 462
2 715 811 458
2 715 823 462
2 715 824 462
2 715 915 460
2 715 916 460
2 715 918 460
2 715 919 460
2 715 920 460
2 715 921 461
2 716 035 459
2 716 036 459
2 716 049 458
2 716 083 463
2 716 266 464
2 716 326 458
2 716 429 461
2 716 585 464
2 716 779 457
2 716 780 457
2 716 781 457
2 716 797 464
2 716 858 458
2 716 859 458
2 716 876 462
2 716 877 462
2 716 878 462
2 717 005 461
2 717 006 461
2 717 007 461
2 717 008 461
2 717 117 459
2 717 126 458
2 717 128 458
2 717 193 463
2 717 194 455
2 717 215 464
2 717 217 463
2 717 302 464
2 717 425 506
2 717 426 506
2 717 427 506
2 717 437 508
2 717 484 505
2 717 486 553
2 717 509 555
2 717 510 555
2 717 511 555
2 717 528 507
2 717 616 554
2 717 823 510
2 717 842 509
2 717 901 509
2 718 111 551
2 718 112 551
2 718 129 555
2 718 130 555
2 718 132 509
2 718 136 510
2 718 158 506
2 718 242 554
2 718 243 554
2 718 244 509
2 718 360 553
2 718 362 507
2 718 442 506
2 718 478 510
2 718 670 506
2 718 671 505
2 718 748 551
2 718 768 555
2 718 773 510
2 718 779 510
2 718 810 507
2 718 905 509
2 719 072 510
2 719 101 510
2 719 332 505
2 719 333 506
2 719 334 506
2 719 335 506
2 719 337 509
2 719 338 506
2 719 415 555
2 719 416 555
2 719 417 555
2 719 419 556
2 719 420 556
2 719 539 554
2 719 540 554
2 719 541 509
2 719 542 509
2 719 795 510
2 719 802 510
2 720 006 549
2 720 007 549
2 720 018 560
2 720 019 552
2 720 020 552
2 720 074 551
2 720 075 551
2 720 092 556
2 720 093 556
2 720 094 556
2 720 096 556
2 720 100 559
2 720 123 549
2 720 222 554
2 720 223 554
2 720 224 554
2 720 225 554
2 720 366 552
2 720 440 559
2 720 441 559
2 720 442 559
2 720 443 559
2 721 358 549
2 721 360 549
2 721 370 557
2 721 440 551
2 721 460 556
2 721 461 556
2 721 465 559
2 721 466 559
2 721 468 559
2 721 473 560
2 721 583 554
2 721 784 559
2 721 811 559
2 722 039 549
2 722 116 556
2 722 117 556
2 722 239 555
2 722 240 555
2 722 348 556
2 722 486 559
2 722 488 560
2 722 489 560
2 722 728 556
2 722 730 555
2 722 814 556
2 722 815 557
2 722 817 560
2 722 949 555
2 722 950 555
2 722 951 557
2 722 983 549

BRITISH PATENTS

662 542 219
704 010 426
704 695 82
704 795 36
704 947 82
705 039 35
705 281 38
705 306 34
705 319 44
705 334 34
705 525 44
705 553 36
705 579 82
705 581 36
706 023 35
706 043 34
706 054 36
706 071 36
706 136 35
706 192 36
706 202 35
706 297 82
708 015 38
708 026 43
708 122 86
708 144 90
708 166 35
708 255 37
708 268 41
708 278 41
708 282 42
708 289 38
708 332 83
708 335 82
708 387 35
708 470 38
708 490 35
708 520 34
708 522 38

PATENT INDEX

708 560	39	712 075	129	715 955	176	718 733	322
708 584	38	712 098	136	716 002	184	718 734	379
708 652	38	712 187	129	716 017	182	718 818	322
708 654	42	712 200	131	716 021	174	718 841	380
708 675	38	712 240	136	716 036	176	718 853	322
708 677	86	712 251	136	716 038	183	718 863	380
708 683	36	712 257	132	716 041	178	718 926	319
708 743	86	712 280	132	716 043	173	719 060	320
708 814	43	712 414	137	716 045	175	719 083	322
708 815	43	712 418	137	716 056	177	719 086	426
708 821	43	712 423	130	716 085	175	719 089	379
708 822	34	712 427	138	716 120	177	719 114	326
708 930	37	712 437	132	716 175	181	719 287	379
708 934	43	712 460	137	716 179	179	719 289	326
708 938	37	712 496	131	716 185	181	719 347	319
708 952	39	712 512	130	716 232	182	719 355	320
709 004	36	712 549	133	716 233	182	719 384	322
709 013	86	712 617	132	716 234	182	719 395	379
709 032	86	712 656	138	716 235	182	719 415	320
709 075	41	712 696	138	716 236	182	719 462	326
709 104	82	712 753	130	716 311	227	719 465	325
709 121	37	712 764	136	716 370	222	719 473	323
709 138	82	712 776	130	716 430	223	719 475	379
709 177	44	712 836	133	716 459	223	719 495	319
709 248	91	712 840	131	716 549	225	719 535	321
709 261	36	712 851	132	716 575	229	719 547	323
709 295	82	713 001	182	716 637	229	719 596	325
709 299	38	713 002	182	716 704	221	719 614	325
709 333	43	713 172	178	716 705	221	719 649	373
709 386	43	713 183	177	716 708	229	719 683	377
709 424	39	713 185	177	716 715	221	719 693	323
709 455	42	713 276	181	716 717	223	719 703	323
709 512	82	713 321	178	716 760	224	719 721	323
709 555	42	713 449	176	716 808	223	719 722	321
709 609	36	713 450	176	716 878	224	719 727	321
709 612	33	713 461	176	716 936	223	719 795	380
709 633	82	713 480	176	716 952	228	719 897	379
709 643	34	713 486	179	716 954	229	719 907	326
709 647	39	713 682	175	716 955	220	719 914	323
709 666	90	713 738	174	716 983	275	720 027	373
709 711	33	713 739	175	716 991	223	720 028	373
709 734	90	713 741	181	716 993	219	720 146	376
709 735	42	713 745	177	717 011	229	720 202	372
709 832	42	713 756	182	717 042	227	720 208	373
709 873	33	713 852	179	717 059	229	720 231	370
709 911	91	713 874	184	717 144	228	720 233	369
709 933	34	713 945	178	717 161	227	720 241	370
709 950	36	714 090	131	717 175	223	720 248	376
709 954	90	714 172	131	717 186	222	720 310	372
709 972	91	714 242	132	717 190	223	720 387	376
709 977	44	714 259	131	717 200	221	720 407	371
710 078	88	714 264	135	717 252	229	720 447	372
710 082	89	714 334	133	717 283	220	720 520	379
710 092	86	714 435	138	717 315	230	720 523	369
710 097	83	714 446	133	717 324	219	720 524	369
710 101	81	714 481	135	717 389	219	720 605	370
710 114	85	714 502	228	717 400	224	720 648	377
710 120	86	714 609	133	717 461	220	720 678	372
710 126	86	714 640	130	717 521	221	720 701	379
710 150	83	714 649	133	717 546	221	720 751	370
710 153	83	714 692	133	717 557	228	720 757	372
710 159	86	714 757	137	717 583	224	720 934	373
710 164	83	714 829	137	717 584	224	720 975	377
710 211	83	714 936	174	717 602	227	721 075	373
710 253	89	714 945	183	717 624	228	721 192	373
710 255	87	714 969	175	717 670	230	721 228	374
710 305	86	715 048	178	717 698	228	721 238	380
710 359	85	715 059	180	717 719	220	721 278	371
710 441	89	715 154	184	717 741	321	721 303	377
710 450	84	715 170	183	717 762	321	721 338	376
710 503	85	715 195	175	717 837	224	721 352	377
710 521	83	715 201	181	717 875	223	721 359	373
710 587	85	715 249	183	717 907	222	721 360	373
710 708	91	715 261	180	717 922	223	721 380	377
710 753	83	715 309	178	717 974	227	721 485	377
710 762	83	715 376	182	718 010	229	721 546	374
710 802	89	715 393	183	718 103	322	721 694	376
710 840	83	715 405	180	718 119	326	721 708	373
710 859	90	715 413	173	718 152	326	721 780	369
710 957	81	715 418	173	718 218	325	721 785	370
711 182	81	715 476	184	718 246	321	721 797	380
711 267	85	715 494	179	718 251	321	721 879	371
711 414	85	715 495	179	718 274	325	721 893	373
711 501	81	715 522	180	718 277	320	721 922	377
711 599	81	715 532	183	718 319	320	722 033	425
711 638	86	715 533	174	718 415	326	722 257	374
711 649	84	715 534	174	718 418	380	722 283	371
711 688	85	715 559	176	718 426	320	722 289	426
711 746	84	715 711	179	718 434	380	722 308	371
711 838	84	715 731	177	718 447	322	722 321	380
711 896	83	715 741	178	718 459	379	722 337	374
711 918	84	715 758	177	718 460	326	722 348	373
711 919	92	715 802	175	718 496	320	722 381	377
711 935	86	715 819	179	718 510	322	722 404	371
712 012	131	715 830	176	718 560	379	722 412	374
712 040	135	715 873	175	718 563	326	722 461	377
712 047	135	715 891	176	718 585	380	722 641	374
712 063	130	715 919	183	718 691	322	722 798	455
712 069	135	715 921	177	718 732	319	722 800	417

PATENT INDEX

722 826 423
722 840 417
722 848 417
722 849 417
722 912 417
722 931 419
722 935 425
722 954 456
722 966 417
723 058 549
723 154 417
723 176 558
723 178 560
723 212 560
723 213 553
723 246 420
723 262 420
723 265 420
723 269 418
723 298 420
723 353 418
723 358 420
723 379 420
723 447 418
723 470 418
723 566 423
723 576 419
723 683 420
723 690 425
723 753 418
723 923 422
723 957 420
723 988 418
723 989 424
724 027 425
724 057 425
724 078 424
724 096 424
724 122 418
724 128 418
724 154 422
724 199 425
724 285 456
724 483 456
724 536 456
724 689 455
724 690 459
724 768 459
724 777 455
724 783 459
724 914 460
724 937 457
725 048 464
725 229 464
725 245 457
725 283 457
725 306 459
725 331 459
725 351 464
725 353 463
725 390 463
725 447 456
725 466 457
725 606 459
725 746 460
725 792 459
725 885 463
725 937 508
725 953 509
725 977 505
725 990 507
726 018 507
726 188 510
726 246 505
726 263 509
726 294 507
726 437 507
726 479 507
726 494 508
726 524 508
726 599 508
726 657 509
726 733 505
726 779 508
726 874 508
726 904 508
726 905 506
726 922 508
726 944 506
726 975 508
727 004 553
727 015 558
727 016 553
727 025 550
727 027 552
727 084 557
727 143 558
727 152 560
727 163 558
727 172 552
727 177 553
727 269 550
727 321 558
727 343 558
727 367 553
727 419 558
727 430 560
727 531 550
727 546 553
727 569 557
727 570 558
727 591 557
727 594 553
727 598 560
727 644 553
727 647 554
727 651 550
727 697 550
727 771 558
727 795 550
727 803 550
727 822 550
727 823 549
727 847 551
727 854 551
727 881 558
727 882 558
727 884 557
727 888 558
727 889 558
727 890 558
727 919 559
727 928 551
727 933 557
728 035 551
728 086 551
728 098 559
728 127 557
728 215 553
728 216 554
728 237 559